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. . THE OPTICAL . .

MAGIC LANTERN

JOURNAL

And Photographic Enlarger.

A Magazine of Popular Science for the Lecture Room and the Domestic Circle.

WITH WHICH IS INCORPORATED THE "LANTERN WORLD."

Vol. 8.—No. 103. DECEMBER, 1897. [Entered at Stationers' Hall.] Price 2d., Post Free 3d.

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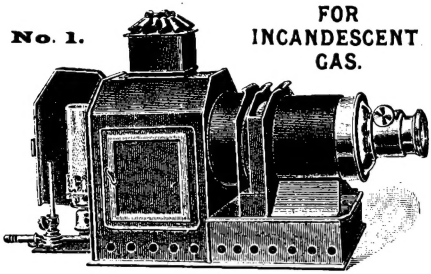

Japanned metal body, very compact, with open stage, brass burner support complete, and fitted into very neat japanned tin case.

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Fitted as specification above, without burner .. **£1 5s. 6d.**

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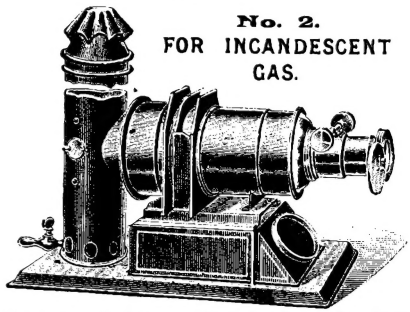

Handsome metal body Lantern, Russian Iron Lamp (reflector lined) and Cowl, with open stage and sliding front, complete in japanned tin case.

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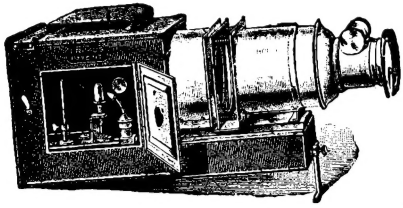

Supplied complete for lime-light, but can also be fitted for either incandescent gas or acetylene gas if desired.

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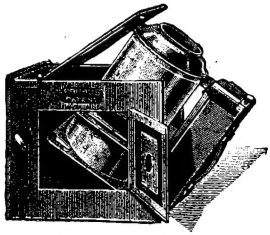

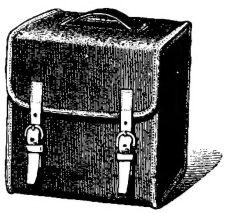

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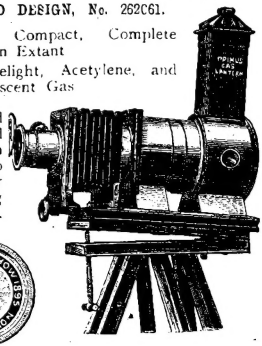
Most Convenient, Compact, Complete Lantern Extant

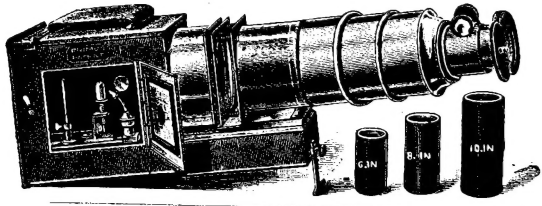
Complete for Limelight, Acetylene, and Incandescent Gas

The whole is packed in a neat stained and varnished case, with lock and key, strap handle, and drawer for sundries, forming a very compact outfit.



PRICES.

Ordinary Pattern, **£6 6 0**; Long Focus Pattern, **£7 7 0.**



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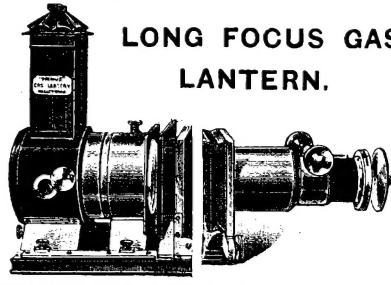

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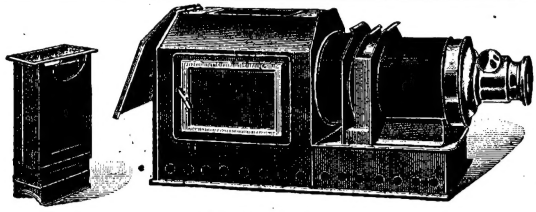

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No. 1A.—**IMPROVEMENTS.**

Greatly reduced size. Very neat appearance. Open stage. Three-draw chimney fits inside lantern. Handsome japanned case fits lantern exactly.

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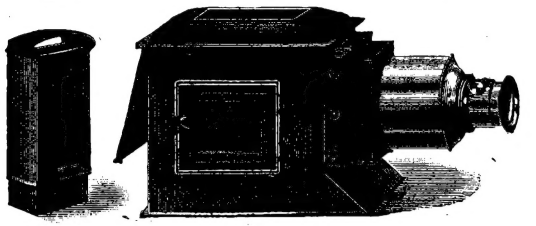

No. 1.—**Japanned Tin,** all brass front, complete in japanned tin case.

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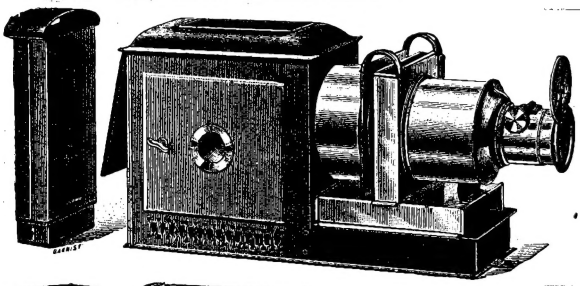

No. 3.—**Russian Iron,** with all brass front and sliding tube. In Russian iron case with handle.

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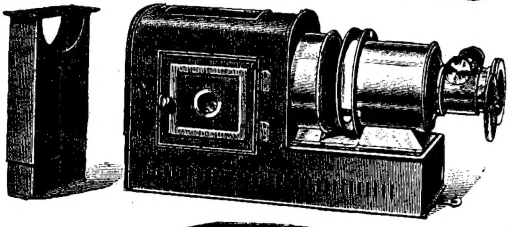
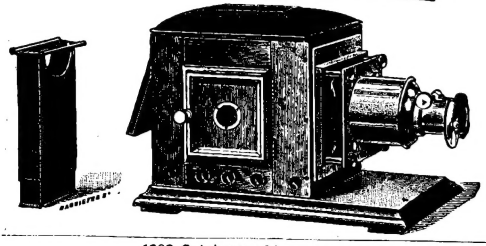
Fitted with three-wick lamp £2	10 0
Fitted with four-wick lamp	2 12 6
Fitted with jet, complete for limelight	3 0 0



No. 4.—**Russian Iron,** massive all brass front and sliding tube, open stage, two panelled doors with brass rim sight holes. Complete in Russian iron case with handles.

PRICES—

Fitted with three-wick lamp ..£3	3 0
,, four-wick lamp ..	3 5 6
,, jet, complete for limelight.. ..	3 13 0



No. 6. — **Mahogany Body,** with one panelled door and long double moulded base-board, brass-bound sight hole, heavy solid brass front and stages, well lacquered.

PRICES—

Complete with tray and top for limelight (no jet) £2	15 6
Complete with three-wick lamp ..	2 18 0
,, four-wick lamp ..	3 0 0
Superior stained case	0 7 6

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GENERAL ADVERTISEMENTS.

AN EXCEPTIONAL OPPORTUNITY. — Mr. Edmund H. Wilkie wishes to dispose of the following useful sets of excellently coloured photographs and effects, painted to order by the best living artists, and not to be excelled for brilliancy and definition. To avoid trouble and secure an immediate sale, they are priced at less than half their real value:—A highly interesting and valuable series of 60 well-painted slides, including 2 moving panoramas and 2 mechanical effects illustrating the Glorious Reign of Queen Victoria, with lecture specially written by Mr. E. H. Wilkie; the whole complete, ready for immediate public use, price £5 10s. A series of magnificent effect sets photographed on the morning of Jubilee Day and beautifully coloured, showing the Jubilee decorations and illuminations as follows:—Mansion House by Night, and mechanical effect disclosing the whole of the illuminations, 2 slides, 6s. 6d.; St. James' Street by Day, Night, and mechanical effect disclosing myriads of coloured lamps (a most beautiful effect), 3 slides, 9s.; the Strand from Exeter Hall by Day, Night, and illuminated by celluloid globes, 3 slides, 7s. 6d.; Duke of Cambridge's House, 3 slides, 7s. 6d.; Fleet Street by Day, Night, and illuminations, 3 slides, 7s. 6d.; the Taj Mahal, India, 3 slides, 7s. 6d.; Temple of Heaven, chintz and effects, 3 slides, 7s. 6d.; Hotel de Ville, Paris, Day, Night, effect to light up windows, and in Winter, 4 slides, 10s.; the Guardian Angel (very fine), mechanical effect of Angel and Moonlight, 2 slides, 6s. 6d.; the Eiffel Tower, 4 slides (one mechanical), 10s.; and numerous other selected subjects. Several superior humorous sets of from 2 to 12 slides, each at nominal prices; and a few of the new triple photographic slipping slides of extra quality, cost 3s. 6d. each, will be sold for 2s. 6d. each; also a few well-painted curtains and mottoes.—Edmund H Wilkie, 114, Maygrove-road, West Hampstead (one minute from West Hampstead Stations on Metropolitan and North London Railways).

A PROFESSIONAL lanternist and cinematographist of great experience is open to engagements, with or without his own apparatus, in town or country, on very moderate terms. Reference, Editor of this Journal. —Address, Optics, 13, York-street, Walworth, London.

GREAT bargains in high-class triple, bi-unial, and oil-lighted lanterns, grand effects, lecture sets, etc.; illustrated lists post free 2d.—W. C. Hughes, Brewster House, 82, Mortimer-road, Kingsland, London, N.

LANTERN Exhibitor, with general workshop experience in making and repair of scientific apparatus; state age, experience, firms served, and present wage; Scotch or North of England man, who has had charge of others, preferred.—W. H., 1, Lothian-street, Edinburgh.

FOR sale or exchange for unframed slides, handsome bi-unial in case, Hughes' dissolver, "Optimus" saturator and jet, pendant saturator and jet, quantity of best effect slides, Archer's Ideal dissolver, 12 feet sheet, complete set of Wray's objectives for bi-unial 6 and 9 inch.—Rev. Christie, Rectory, Newtonstewart, Ireland.

HIGH-CLASS triple lantern; mahogany body, brass fronts, large jackets, two sets of objectives, registering stops, very complete dissolving system, etc., etc., £30; also two lecture sets of about 200 first-class coloured photos and effects, all framed, £14; also mahogany bi-unial with jets, dissolver, objectives, etc.; complete except condensers, £4.—80, Bancroft-road, Mile End.

AN operator of considerable experience is open to engagements; first-class single lantern and all apparatus; charges moderate; testimonials.—Fides, c/o this Journal.

LECTURER'S coloured slides.—50 Rhine, 50 Ireland, 40 India, 40 Chester, 50 South Africa, 60 Round the World, 36 Venice, 40 London; these to clear at 5d. per slide in sets. Some effect slides to be clear at 7d. each, worth 2s. each. A first-class cinematograph for sale; a shutterless machine with best lens, showing big picture; perfection; sell for £7 10s.—Write, J. Morrison, 58, Theirlmore-road, Liverpool.

PLAIN photo lantern slides for cash or suitable exchange, embracing Continental and English scenery, cathedrals, eminent musicians, superior photo-micrographs, etc.; cheap.—Walter Pindar, Burton-on-Trent.

OIL lanternists. No more smell. "Odoreena" removes smell, gives more light. 1s. box lasts the season; dozens already sold.—J. Smith Sydling, Dorset.

INCANDESCENT gas lantern; cabinet fitted with every accessory; 7ft. 6in. mounted washable screen, quite new, guaranteed; 70s., or best offer. Inspection invited.—"Trebor," 57, Lansdowne-road, London Fields, N.E.

CLEARANCE.—Lantern slides by York, etc., with readings. 28 Day in London, 12s.; 48 Palestine, 22s.; 25 Zoo, 10s.; 27 Round World, 12s.; 24 China, 10s.; 22 London to Rome, 10s.; 42 Egypt, 17s. 6d.; 22 India, 10s.; 18 British Museum, 7s. 6d.; 40 Life Christ, 17s. 6d.; 13 Bible Customs, 5s.; 6 Tabernacle, 2s.; 25 slipping, 10s.; lot £7; bargains.—H. W. Collins, Edenbridge.

BRIN'S, nearly new, 20 feet oxygen cylinders, 30s.; gas bag and pressure boards, 10s.; cast iron retort, 5s.; new 12 feet screen, 10s.; 18 feet screen, 15s.—H. W. Collins, Edenbridge.

A LANTERN operator, with his own apparatus, desires an engagement with a lecturer or otherwise.—Address, J. B., care of Journal.

YOUNG man, first-class lantern slide maker and colourist, also a first-class studio and outdoor photographer, seeks permanent engagement with prominent firm; willing to go abroad. Salary, 35s. a week. Samples of the above work will be despatched on receipt of postcard.—X.Y.Z., Office of Journal.

ON sale.—Nearly new Chapman's bi-unial lantern: all accessories and 400 slides, lot cost £85; sell for £35, or sell part cheap. Money wanted.—Address, Ashworth, 20, Parson's-lane, Bury, Lancashire.

WANTED, good effect slides, well-coloured, no rubbish; send list and prices, and if on approval. —Baruch Blaker, Worthing.

PHOTOGRAPHIC lenses for sale. Ross's symmetrical, 6 by 5, £2 15s.; Dallmeyer's, 10 by 8 to 12 by 10 triple achromatic, £4 5s.; "Optimus" R.R., 15 by 12, almost new, £8.—Baruch Blaker, Worthing.

12 SCRIPTURE figure scenes, coloured, also effect slides, highest class, cheap (or valuable exchange). Effects:—"Ship in full Sail," day and night in storm, 3s. 6d.; "Norwegian Village," sunset, moonlight, cottage windows lit up, worth 15s. 6d., price 4s. 6d.—G., Sunnydene, Forest-road, Walthamstow.

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AND PHOTOGRAPHIC ENLARGER.
EDITED BY J. HAY TAYLOR.
A MAGAZINE OF POPULAR SCIENCE FOR THE LECTURE-ROOM AND THE DOMESTIC CIRCLE.
Entered at Stationers' Hall.
1889

WITH WHICH IS INCORPORATED THE "LANTERN WORLD."

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NOTICES.

THE *Optical Magic Lantern Journal and Photographic Enlarger* is issued on the 1st of every month, price Two Pence, and may be obtained from all Newsvendors, Railway News Stalls, Photographic Dealers, or from the Publishers, at the following rates, post free:—

12 months, 3/-. United States, 75 cents.

EXCHANGE Column, General Wants, &c. (not Trade)—First 20 words, 6d.; and for every 3 additional words, 1d.

SMALL ADVERTISEMENTS must reach the office not later than the first post on the 24th of each month. All cheques and postal orders to be made payable to the Magic Lantern Journal Company, Limited.

EDITORIAL communications must be addressed, **J. HAY TAYLOR.** Advertisements and business communications to **Jos. T. Smith, Secretary, Magic Lantern Journal Company, Limited, 9, Carthusian Street, London, E.C.**

American Agents:—The International News Co., 83 and 85, Duane Street, New York City.

NOTES.

History of Animated Pictures.—We have pleasure in announcing that Mr. W. C. Hughes, of Kingsland, N., is engaged on a series of articles on the above subject, the first of which we hope will appear in our January number. Mr. Hughes' articles will be looked forward to with interest.

Victoria's Glorious Reign.—The majority of lantern readings are far too heavy and prosaic. This, however, does not apply to a new reading on the above subject which has been written by Mr. E. H. Wilkie (who will be known to all our readers) to accompany a new series of dissolving views which have found a prominent place among the trade. Mr. Wilkie tells the story in such an interesting way that we do not think one line could have been omitted. It is descriptive of 79 slides, and even apart from any pictures it forms excellent reading. The reading and slides can be obtained from most dealers.

North Middlesex Photographic Society.—The ninth annual exhibition of the work of members of this society will be taking place about the time this notice appears, being held at

Jubilee Hall, Hornsey Road, N., on November 29th, 30th, and December 1st, the inaugural meeting taking the form of a conversazione. If this is the same as on previous occasions it will be an immense success.

Ashton-under-Lyne Photographic Society.—For six evenings commencing November 22nd this Society held their third triennial exhibition at the Town Hall. The exhibition was open daily from 3 p.m., whilst from 6 to 8, and 9.30 to 10 an admirable musical programme was drawn out for each evening. Several photographic demonstrations were given in an adjoining hall.

Birmingham Temperance Society. — A series of Sunday evening lantern services have been commenced at the Circus, Corporation Street, Birmingham, under the auspices of the above society. A good band is in attendance, solos and recitations are given, and the lecture of the evening is illustrated by limelight views. Mr. A. H. Saunders, who takes a prominent part in connection with temperance societies, and who is known to most of our readers—at least by name—officiates at the lantern in his usual excellent style. If these services can be made self-supporting, it is the intention to continue them during the winter.

10,000,000 Candle-Power. — On the Brittany coast, the Penmarch lighthouse, which is estimated to give the above candle-power, and is visible at a distance of 60 miles, has been erected as a monument to Marshal Davoust, Duke of Auerstadt, by his daughter, who placed £12,000 at the disposal of the French Government for this purpose.

Explosion of Acetylene Gas. — We have told our readers several times, and we again repeat it, "keep naked lights away from acetylene generators when opening the gasometer." By disregarding this advice, a terrible explosion recently occurred in a machine shop in Rochester, N.Y., U.S.A., by which a mechanic was injured by a fracture over the eyes thus losing the sight of them both. At the time of writing, the patient is in the hospital, and unfortunately it is said that he will succumb to his injuries. The injured man was fitting a new valve to the apparatus, a light was too near, and an explosion occurred. An assistant had a narrow escape, a piece of iron tearing his clothes as it flew past him. Acetylene gas gives a splendid light, but, like everything else, it must be employed under certain conditions, the chief of which is to keep a naked light away from the gasometer when it is about to be opened, either for recharging or other purposes.

Change of Address.—The Northern Photographic Works Company, Limited, have removed from Salisbury Road, Barnet, to more commodious premises at Nesbitt's Alley, High Street, Barnet. Mr. Birt Acres is to be congratulated that he has worked up the business to such an extent as to require larger premises.

Borough Polytechnic Photographic Society.—The third annual exhibition of this society will be held at 183, Borough Road, S.E., on the 28th, 29th, 30th, 31st inst., and January 1st. There will be six classes, three being for members, two being open, and one invitation, full particulars of which may be obtained from the Hon. Sec., Mr. F. W. Bannister, 103, Borough Road, S.E.

J. Barnard & Son. — The partnership hitherto existing between Messrs. Frederick Capel Cure and Thomas Claude Fairhead (trading as J. Barnard & Son) has been dissolved by mutual consent. Mr. Cure will continue the business under the name of J. Barnard & Son, pay all liabilities, and collect all outstanding accounts. This firm of manufacturing artists' colourmen, at 19, Berners Street, W., is of long standing, having been founded in 1841.

Carbon Wicks.—The Lee Lamp Company, Limited, has introduced a new form of lamp for domestic use, in which a ring of carbon is placed in contact with the wick, and it is from the former that the oil is burned; it is claimed that by this system the petroleum is drawn up quite free from the impurities which enter into the flame by a cotton wick.

The Photochromoscope.— Mr. Ives' photochromoscope for use with the optical lantern, showing plain photographs on the screen in their natural colours, has been placed on the market by Messrs. Newton & Company, of 3, Fleet Street. It may be noted that this instrument shows admirably with a single limelight jet or electric arc lamp.

TO clear cheap, good second-hand coloured slides; many sets suitable for Christmastide; customers' own slides coloured; photos, etc., reproduced as slides; work good and cheap; lists free.—T. Wing, Chatteris.

PROFESSOR BATE, lanternist and cinematographist, for home and abroad; fakes and effects, copyright.—67, Wellington-street, Bradford, Manchester.

ENTERTAINMENTS provided. Cinematograph, dioramic, and conjuring, with music and songs, combined or separate.—Professor Kœnig, 373, Edgware-road, Maida Vale, W.

ILLUSTRATED HYMN.—"Greenland's Icy Mountains," in 17 high-class slides (monochrome); from original designs.—Apply, E. A. Boxer, 1, Marchhall-crescent, Edinburgh.

THOROUGHLY competent lantern operator and cinematographist seeks engagement. The advertiser has, during the last 16 years, been attached to some of the leading educational establishments in Australia (including the Sydney Technical College), and holds the highest testimonials as to character and ability, and for the excellence of lantern slide production (wet plate) and general scientific knowledge.—Address, "Operator," Burley-Wharfdale, near Leeds.

LANTERN slides.—London views, 250; St. Paul's, 50; Westminster Abbey, 80; the Zoo, 80; Lynmouth, Ilfracombe, and Clovelly, 100; Hastings and Eastbourne; Brighton, Torquay, Hampton Court, the Thames, Barnet Fair, Frozen Thames, Breaking Waves, Sunsets, Diamond Jubilee, Harrow, and many others; all at 6s. the dozen; worth double. Send for list.—John Stabb, 152, Kensington Park-road, Bayswater.

LANTERN, bi-unial "Optimus," mahogany body with lime trays, two blow-through jets, good order and condition throughout; also 70 slides Chicago Exhibition, all for £7 10s.—Moore, Chemist, Hanley.

HIGH-CLASS operators' clearance.—Mahogany body lantern, 4½ inch condensers, blow-through jet, 4-wick oil lamp, Scott's saturator, Incanto acetylene gas burner and tray; sheet, tinted glasses; prompt sale, £6; 125 odd 3¼ by 3¼ chromo slides, 8s. lot.—Truelock, Shakespeare-street, Manchester.

LANTERN slide making becomes a pleasure when Allen's lantern slide camera is used; the price is only 15s. 6d.; dark slide and every movement for negative; send stamp for particulars; list of cameras, extra dark slide, etc.—W. Allen, camera manufacturer, Maidenhead.

BARGAINS.—Copyright sets, effects, etc., all hand-painted, not tinted; Dr. Jameson's Dash, 60 slides, coloured, 60s., worth 2s. 3d. each; Queen's Reign, 31 slides, 31s., coloured effects; Old Maid's House, Llangollen, 4 effects, 3s. 6d.; Canal and Cottages, Llangollen, 4 effects, 3s. 6d.; York Minster, 4, 3s. 6d.; Great Ormes Head, 4, 3s. 6d.; Statuary blacked out, Coming to Life, 10 slides, 8s.; 13 Castles and Legends, coloured exquisite, 10s. Grand temperance comics, etc., new sets.—A Drunkard's Home, 6 slides, coloured, 5s.; Pleasures of a Pipe, 8 slides, 7s., coloured exquisite; Applied Science, 3 slides, coloured, 2s. 3d.; Sambo and De Ostrich, 4 slides, 3s.; Glass of Ice Cream, 4 slides, 3s.; Tale of Woe, 4 slides, 3s.; Small Xmas Box, 2 slides, 1s. 6d.; A Worried Look, 3 slides, 2s. 3d., coloured; Another Hat Trick, 3 slides, 2s. 3d.—Address, J. Lett, 14, Moon-street, Pembroke-place, Liverpool.

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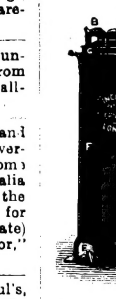

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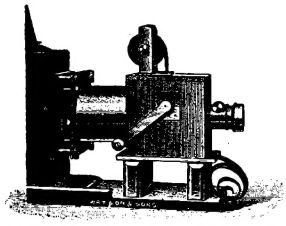

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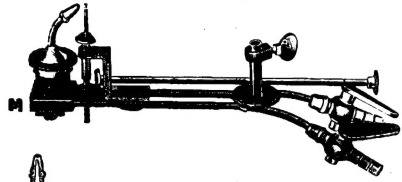

This is the only Mixed Gas Jet which will work at full power with coal gas taken direct from the town supply, and oxygen from a cylinder. In order to effect this the oxygen, on its way to the mixing chamber, is made to pass through the small Injector I in the sketch at a pressure of about 12 lbs. per square inch. In passing through the Injector it sucks a supply of coal gas from the pipe H, which is connected with the house pipe, and forces it forward through the short pipe T into the mixing chamber M. Here the mixed gases meet the baffle plate B, which has the two-fold effect of silencing the passage of the gases, and ensuring their complete admixture. The mixed gases then pass through holes in the edge of the plate, and so to the burner. The requisite pressure of oxygen is obtained in the ordinary way by a fine tap on the cylinder, or an automatic regulator fitted with a high-pressure spring to deliver at about 15 lbs. pressure.

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Most existing jets can be fitted with an Injector to enable them to take their coal gas supply from the house pipe.

The Jet will in certain cases be sent on approval on deposit of purchase price. Further particulars free on application to

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As supplied to Queen's Theatre, Manchester; Professor Hermann's Magical Entertainment, New York; Exhibited with enormous success, Crystal Palace, Sydenham, etc., etc.,

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E. S. BRUCE, 19, Campden House Road, Kensington, LONDON, W.

Cinematographs and the Queen.—The energetic firm of Messrs. Walker & Co., of Aberdeen, have lately had the honour of exhibiting a series of animated pictures before the Queen at Balmoral, and the audience were highly gratified with the performance. The apparatus employed was the popular one patented by Wrench & Son, of London.

WE regret to have to announce the death of Mr. John Ottway, jun., one of the partners in John Ottway & Son, of St. John Street Road, E.C., which took place on the 8th ult. Mr. Ottway had been away from business for several weeks with influenza, but it was only a few days before his death that his ailment assumed a serious turn. We are informed that the business will be carried on as usual.

Prominent Men in the Lantern World.

No. XIV. Mr. W. R. HILL.

WERE we to search through the length and breadth of the land we should have difficulty in finding one who has done more to elevate the status of dissolving view entertainments than Mr. W. R. Hill, whose portrait we give in this issue.

To those conversant with the magnificent views and complicated mechanical effects for which the late Royal Polytechnic Institution was so justly famous his name will be familiar, and to the great body of lanternists scattered in every quarter of the globe, he will be known by his work, which, were it possible to gather the whole in one collection, would probably cover acres.

Mr. Hill is a Londoner, who, born early in this century, was thrown by circumstances into the company of some of the best artists of the time, amongst whom may be mentioned Mr. Kinton, the Academician. At school he was a recognised artistic authority amongst his fellow pupils, his leisure time being principally occupied in the production of pencil sketches and water colour drawings, which he afterwards exchanged, amongst his friends, for books, many of which he still possesses and regards with great affection. At this time some of his sketches came under the notice of Dr. Elmore, of Harley Street, who was attending his uncle professionally, and being much attracted by their undoubted merit, requested Master Hill to call upon his son, Mr. Elmore, a member of the Royal Academy, but the young artist had not sufficient confidence to follow up the introduction which, says Mr. Hill, "is a circumstance I have ever regretted." Amongst others who were attracted by young Hill's productions was a Mr. Armstrong, who being a personal friend of Mr. H. L. Childe (the father of lantern effects), introduced him to the latter gentleman and a friendship sprang up between them which lasted into after life. It will thus be seen that Mr. Hill's acquaintance with Mr. Childe commenced in his school days and long

before his particular walk in life had been decided upon. On leaving school he was bound as an apprentice to Mr. Childe, and at the expiration of his term entered into partnership with his master and worked by his side for twenty years until they dissolved in 1867, when Mr. Hill commenced business on his own account. The subject of our sketch, although a grave and pleasant looking man, is possessed of a great sense of humour, which, on one occasion at least, nearly brought him into trouble.

At that time the majority of the lanterns sold by opticians were mere toys and Mr. Childe was accordingly compelled to fit up his own as none

were to be had commercially which would meet his requirements. They were experimenting one evening with some lenses, when, Mr. Hill tells us, "Mr. Childe in order to see what was wrong put his head into the body of the lantern in which was a candle. His hair immediately caught fire and blazed like a bonfire, on seeing which I quite ached with laughing; he looked at me at first seriously, but soon the ridiculous side of the affair occurred to him, which was shown by a smile which did not seem a very genuine one." They were a very happy and united family under Mr. Childe's roof and during the hours of work their labours were often lightened by the reading aloud of various books by Mr. Childe's neice. This lady afterwards married Mr. Lloyd, who made for Messrs. Childe and Hill the first limelight box with lenses for stage work and which was used to throw a beam of light upon the celebrated dancers, Monsieur Leon and Madame Plunket, at Drury Lane Theatre in 1855.

After the dissolution of partnership with Mr. Childe, Mr. Hill's first pictures were a series of scenes on the Rhine, painted for Prof. Pepper and exhibited at the Royal Polytechnic, and from that time forward the large size pictures used in the 9-inch lanterns at that institution were mostly executed by him. The designs in some cases were the work of well-known artists, amongst whom Mr. Hine stands prominently forward, not only on account of the quality, but also on account of the quantity of his productions. Some of these paintings are very large, the panorama in "Gabriel Grubb" being 8 inches wide by 36 inches long without the frame, and these sizes of course allowed for a tremendous amount of detail.

The paintings for the institution embraced almost every conceivable subject, and all kinds of motions, some of them being very curious and ingenious. On account of the special size Mr. Hill was obliged to construct all his own frames and movements and he tells us that the most difficult he ever made was the descent of "Angels on the Fields of Bethlehem." In this view seven angels descend with moving wings, and these wings do not all move together but at different times; the effect is beautiful, especially when exhibited on a large scale and accompanied by appropriate music.

During the entertainment, entitled, "Alice in Wonderland," given by the late Mr. George Buckland, an effect was introduced by Mr. Hill which created a great deal of amusement when exhibited, and received considerable attention in the public press. The white rabbit which plays so prominent a part in the story was seen to walk across the screen and when nearly at the opposite side he halted, and taking his watch from his pocket, bent down his head to look at the time, after which he returned the watch and walked right off the screen, his legs moving in the most natural manner.

A large quantity of these views were exhibited in Hanover Square a couple of years ago by us (J. Hay Taylor); they were lent by Mr. Edmund H. Wilkie, and those who were fortunate enough to be present will remember that Mr. Hill attended the exhibition in order to advise in connection with the operating department.

He te'ls us that: "one rule I started with at the commencement of my career as an artist on glass, that was to take every precaution never to unduly tax my eyes by too much reading, especially at night; my motto was always 'Early to bed and early to rise,' and I contend that one hour in the morning is worth two or three at night. I consider that gardening, in which I take particular delight, and the exercise of walking have kept off the evil effects of the cramp and confinement necessarily consequent on the profession I follow, and humanly speaking I owe to these few and simple rules of life the sound health, the steady hand, and perfect eyesight which I enjoy at the present day." As will be seen from the photograph, Mr. Hill seems to have discovered the secret of perpetual youth.

The Finishing of Photographic Enlargements.

By EDGAR CLIPTON.

(Continued from p. 189).

THE chalk used with these may be taken either from the box or the leather palette, according to the depth of colour required, and it should be borne in mind that although the touches must not be unduly heavy, it is hopeless to attempt to put in a deep shadow by successive light tints, the effect of excessive rubbing being to polish the surface of the paper until it refuses to take any more crayon. The stumps should be used with a circular rubbing motion, and should be employed to strengthen shadows, and to define such portions of the picture as require to be emphasised and lifted out from their surroundings.

As much as possible should be done at this stage, as the general effect of a large picture is frequently spoiled if too much work is left to be done with the small or "stippling" stumps.

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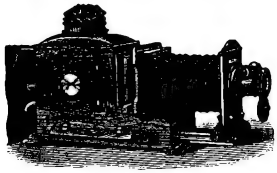

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Two Prize Medals.

Proved superior to all others, See Reports. **"THE IDEAL"** our new PERFECT Single Lantern and Automatic Dissolver.

See Enthusiastic Testimonials from PAUL LANGE, Esq., G. E. THOMPSON, Esq., **Manchester Camera Club**, *and many others.*

"THE IDEAL," the Lantern of the future. Price £8 15s. complete.
No. 3, Plainer Form, £6 6s. COMPLETE.

The Improved "PHOTINUS" is the most powerful oil lantern in the world. Price **£4 4s.**

The Best "BLO-THRO" SAFETY JET in the Market. 500 Candle power. Price only **16s.** Send for List, Post Free.

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ARCHER & SONS, Lantern Specialists and Manufacturers, 43 to 49, Lord Street, Liverpool.

Established 1848. Illustrated Lists free. Effect Slides painted for Wholesale London Houses. All kinds of Slides made to order.

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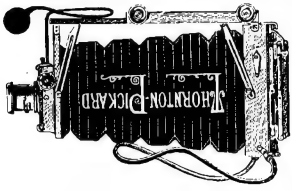

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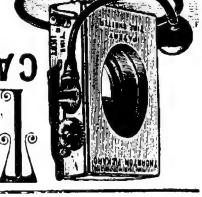

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Powerful High-pressure Jet.

THIS JET IS SPECIALLY CONSTRUCTED FOR THE CINEMATOGRAPH.
IT GIVES A LIGHT OF **1,500** CANDLE-POWER.

This Jet is of the Highest Workmanship. It can be fitted with our improved form of Screw-down Valve if required. Equally suitable for the Lantern.

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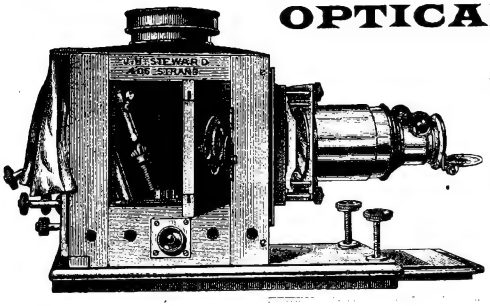
INCANDESCENT GAS, LIME, OR ELECTRIC LIGHT.



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Or with Lantern Complete, £13 10s., £20, and £36.

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ALSO BEST REALISTIC EFFECTS.

The Davenport-Steward Universal Arc Lamp

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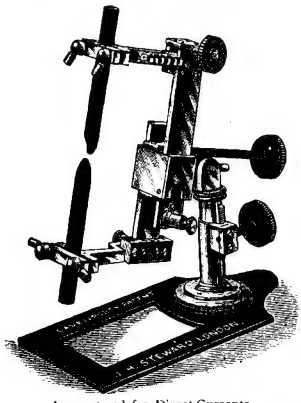
Has perfect adjustments for centering, and will answer perfectly for any current from 7 to 20 amperes, and give any required Illumination from 500 to 5,000 candle-power.



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Best Quality.

Other Patterns,
FROM **£4 4s.**

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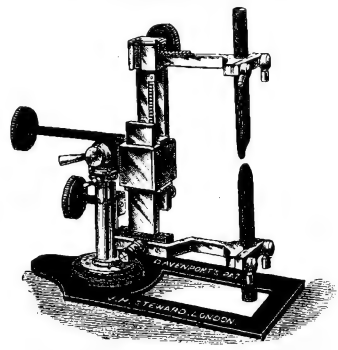

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NEW EFFECTS OF THE JUBILEE DECORATIONS.
NEW PHOTOGRAPHIC SETS OF THE DIAMOND JUBILEE PROCESSION AND SERVICE AT ST. PAUL'S. IMPROVED JETS, ETC., ETC.

406, 457, Strand, W.C.; 7, Gracechurch Street, E.C.; LONDON.

At this point it is advisable to "take out" with a pointed piece of ink eraser any necessary high lights which may have been covered with the first general tint, and the picture will then be ready for the final stippling, which closely resembles ordinary negative retouching, both in its nature and effect; a general softness is secured by blending lights into shadows, and by touching out the many defects which, although tiny in the original negative, are disagreeably prominent in the enlargement. For this we use the small paper stumps and chalk from the palette, first giving our attention to actual defects, such as white spots, scratches, and the like, and then proceed to "even up" any coarse or granular surfaces by soft touches on the lighter portions. Care should be taken that every touch, no matter how small, should be made with a definite object, a finely stippled effect never being obtained if even "dotting over" be practised, for in this case the original inequalities remain under an even veil of stipple; the right thing to do is to put touches where they are wanted, and the smoothness will follow. The stumps will require sharpening from time to time, and this may be done on a smooth piece of pumice stone or on the finest emery paper; this not only gives them a new point, but adds to their power of holding the chalk, which they soon lose by becoming polished by use.

The final touches may now be given with the solid black and white crayons, these being used as little as possible, or a hard and wiry appearance will result. We are, of course, assuming that a finished photograph is aimed at, and not a chalk drawing; in the latter case the crayon point is used freely, and many fine effects may be obtained by cross hatching. Once this is introduced, however, the photographic effect is lost, and it requires a skilled hand to ensure a satisfactory result. Many

first-class workers

will not use a white crayon upon an enlargement at all, and rely entirely upon the eraser and knife. This latter is a valuable tool if used judiciously, and a dark enlargement may be entirely finished by its aid, every gradation of tone being produced by careful scraping. An ordinary penknife blade is used, and a very slight scraping action is necessary, as if used with too heavy a hand the lights produced by it will look rough and ragged.

The method of working in black and white in water colour presents few points of difficulty in technique; the following are perhaps the most important:—

The colour used should exactly match the tone of the enlargement, as it is not advisable to put a general wash over the entire surface as recommended when working with chalk. Indian ink is often recommended, but is too brown in tone to be used with any but very "rusty" coloured prints; this may, to a certain extent, be remedied by the admixture of a little indigo or other blue; as a rule lampblack or the French black sold in hexagonal sticks for black and white drawing will be found to answer well. There is also a liquid made by Reeves, and called "Artists' Black," which is excellent; it can be diluted with water to any extent, and gives pure shades of grey. Chinese white may be used for the

extreme high lights

but it is better, if possible, to produce these with the aid of the "scraper." Body colour (a mixture of black and white) should never be used, as it is almost impossible to avoid an appearance of patchiness wherever it is applied.

Sable brushes are absolutely necessary if good results are desired, and very small sizes should be avoided for our present purpose. Very fine work may be done with a medium-sized brush if it has a fine point, and it has the additional advantage of carrying a quantity of colour and discharging it evenly, a quality which is not possessed by a small brush which requires dipping in the colour every two or three touches. A good sable brush should form a perfect and sharp point if dipped into water and the surplus shaken off; if the point be divided or forked the brush is worthless.

No respectable artist's colourman will object to bringing a glass of water for testing, and most keep a bowl on the counter ready for use; they are not, however, obtrusive in thrusting it upon you if you do not ask for it (*verb. sap*). The eraser may be used to lighten any desired parts, and the knife may be employed with even better effect than when using chalk.

Oil colour is little used in this country for finishing enlargements, but is effective and rapid in use.

The materials required are a tube of blue black, a tube of flake white, one of megilp, a bottle of spirit of turpentine, and a few hog-hair brushes, and a couple of small sables for finer touches complete the outfit. The great objection to oil colours upon an enlargement is the shiny surface they give. This may to a great extent be avoided by using as little oil as possible; mix the colour, thinned with megilp and turpentine upon a thick piece of brown paper; this will absorb the oil and the colour will then dry with a matt surface. If the paint appears too thick, dip the brush in a little turpentine each time colour is taken up. This

will make it work freely. It may here be noted that brushes used for oil colour should never be allowed to dry with colour on them, they must either be washed in turpentine or stuck in a jar of soft soap until it is convenient to wash them. Now a few words as to the preparation of the surfaces of enlargements by different processes.

Bromides require no preparation for finishing in either chalk, water, or oil. If the paper be very smooth, a little pumice powder may be mixed with the crayon powder used to give the first tint. This will give a tooth for the subsequent work.

Carbons are rarely finished in chalk unless in colour. The surface is usually very smooth, and will require a preliminary treatment with pumice and pastel powder. It is hardly necessary to say that, whatever the colour of the picture, the crayon used must be an exact match. Carbon prints are usually made in warm tones, and are utterly ruined by the slightest difference in the colour used in finishing. When finishing carbons in water colours, a slight greasiness of the surface is often present. This is due to the wax used in transferring. It may be removed by rubbing with a soft rag or tuft of cotton wool saturated with benzine. If after this the surface be at all repellant, a little ox-gall mixed with the colours will set matters right. A carbon print requires no special treatment before finishing in oil colours.

Platinotypes are almost invariably finished in water colours; they are apt to be spongy on the surface, and to take the colour like blotting paper. The surface to be worked should be washed over with a weak solution of gelatine and allowed to dry for a day or two. It will then be found almost equal to the best drawing papers.

Lantern Advertisements.

By F. J. SCRIMGEOUR.

(*Continued from page* 188).

A FEATURE of the lecture poster should be simplicity of colour. Let the groundwork be at least monochrome; a rainbow effect will, with advantage, be shunned for a series! To sum up all, simplicity and uniformity should be the characteristics of lecture advertisements.

The arrangement of a notice regarding a lantern entertainment is more elaborate, and gives scope for commendable originality. Especially is this the case when such a thing is only an occasional event. The practice deserves to be radically condemned, but there are halls, and especially Church Missions, where a lantern show is a weekly feature—Saturday night generally—and then, as each exhibition is one of a series, it should be treated as such, and a common form should be adopted in the weekly advertisement. It is the "occasional entertainment" which depends most upon the press or bill notice. Something to catch the eye of all is what is wanted then, and the nature of the "catch" depends on the district. In certain towns, where lanternism has not been overdone in the past, the simple heading "Limelight Exhibition" is sufficient to guarantee the reading of what follows, however plainly put. But that state of things is, unfortunately, not the rule, and something "catchy" in the form and wording of the newspaper advertisement, and in the colour and shape of the bill notice, is advisable. For the press, colour and shape being out of the question, the full enunciation of all possible detail is often effective.

GRAND ENTERTAINMENT.

MAGNIFICENT EXHIBITION
OF COLOURED VIEWS
IN THE
TOWN HALL,
SATURDAY, THE 9TH OF DECEMBER.

Moving Pictures and Realistic Effects
BY
AN ELABORATE AND WONDERFUL LIMELIGHT
TRIPLE LANTERN.

Lantern Operator .....

Come and See
- "A London Fire."
- "A Naval Battle, with Torpedo in action."
- "The Shipwreck."
- Etc., etc.

Doors open 6.30. Curtain rises 7.30.

Admission .....

The above is only a specimen. I have seen some notices that contained unusual features. In a large city I noticed a poster which began something like this:—

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"Are you there?"

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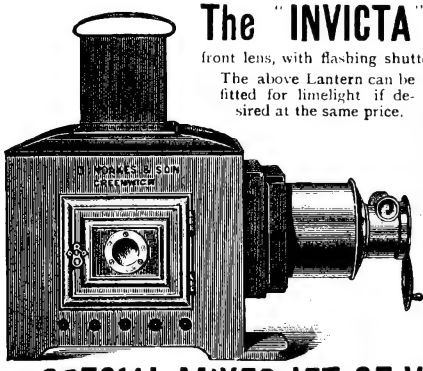
Manufacturers of Lantern and Photographic Apparatus.



The "INVICTA"

front lens, with flashing shutter.

The above Lantern can be fitted for limelight if desired at the same price.

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Complete in Case - - £3 7s. 6d.

The Noakes' Patent Intermediate Gas Regulator,

Giving perfect control over the gas, and preventing all noise and roaring when using compressed gas.

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These can be fitted to any jet, either in place of, or to act in conjunction with the existing jet taps.

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Made on an improved model, with the Noakes' Patent Intermediate Regulators and rack adjustment for lime, as used at the Royal Albert Hall to illuminate a 43-ft. disc. No extravagant consumption of gas **Price £2.**

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OXYGEN of Guaranteed Purity supplied in Cylinders of the Best BRITISH Manufacture, and complying with all the established Trade and Railway Regulations.

The public are respectfully informed that all Cylinders which are filled by the BRIN COMPANIES (whether their own or their Customers) are labelled with the Companies' Trade Mark. This label guarantees the purity of the Gas, and is a further guarantee that the Cylinder has been tested and proved sound in every respect by the BRIN COMPANY which has filled it. Customers who wish to procure BRIN'S OXYGEN are requested to see that the Cylinders supplied to them bear this label, which is also stamped with the date on which the Cylinder was filled.

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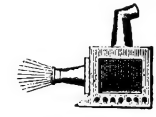

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"Yes. What do you want?"

"Will you come over and dine with us to-night?"

"To-night? Oh, no! I'm going to the

GRAND EXHIBITION."

Etc.

Last winter Dr. Barnado's travelling secretary tried to make curiosity add to his audiences by announcing in type wherever he went that views would be exhibited by means of a "Stereoscopean," which turned out to be only one other *alias* for our friend the optical lantern. If the lantern is in itself a feature, an electro of the apparatus "takes" well; and if a bi-unial or triple is in use, its pictorial representation adds greatly to the advertisement. One may usually purchase a comparatively authentic electro from the maker, to whom, in fact, its use may not be without some benefit. As to colour, nothing can be too glaring. If blue is the general colour on the district bill stations, then let yours be red; should pink seem cheap, then adopt green. In some places coloured bills are so common that a

plain white sheet

will have the greatest chance of attracting attention.

While all this superlative colour and wording is correct and proper for town and independent halls, the same method can seldom be entirely adopted for church entertainments. These are, as a rule, given in connection with Sunday schools, or children's gatherings of one sort or another, and generally are intended only for the juniors of one particular church. They are at least ostensibly exclusive, but in the majority of cases no child is refused admission if there is room in any corner. Now, it is the easiest thing in the world to advertise the show on occasions like these. Whether it is most effective to announce the entertainment to the Sunday School as an invitation to themselves and to all their friends and chums also, or to whisper it in their ears, so to speak, as a strict secret to be divulged to no one, is open to argument. About equally effective I think they are; if anything, the "secret" plan has it!

Permit me to widen the usual sense of the title of this article, and say that by far the best advertisement a lecturer or entertainer can have—better than catchy headlines, sensational details, or gorgeous posters—is a good reputation. It spreads faster than many would deem possible, and will do more than anything else to fill chairs and crowd forms.

The Lanternist's Practical Cyclopædia.—No. XIV.*

By CHARLES E. RENDLE.

IRON.—The most important of the common metals, and found in a great variety of forms at the surface of the globe, and obtained in large quantities from many ores with which it is combined with oxygen; such a subject as "A Lump of Iron Ore" would prove an exhaustless one for any lecturer, both for literary matter and pictorial demonstration, for it is almost impossible to think of a calling in life that is without its claims to the powers of the chemist, in treating the "lump of iron." The banker, who seldom soils his fingers with work is a debtor, for it forms the ink, and even the pen with which the business of the world is kept in motion. The surgeon, with the scalpel, mitigates the pain of suffering humanity by wholesome operation. The mason, the smith, the carpenter, the layer of bricks, and all those who furnish the comfort and luxury in all civilised lands by the use of tools, iron being the element of their composition. Instruments that penetrate into the earth, too, claim dominion over the mineral kingdom; the pick and spade for the miner, the plough for the agriculturist, the gun and sword, with other weapons of butchery for the soldier, the marline-spike for the sailor, the tiniest of needles required for the delicate fabric for the embroiderer, the mighty beam of the steam engine, with its power superior to the strength and energies of a thousand men, huge vessels, bolted and bound, the compass needle that maps the path across the trackless ocean, and the anchor that gives peace in the storm. These with others, too numerous to name, are indebted to the chemistry of a lump of iron.

ISOCHROMATIC.—Being of same colour.

IVORY BLACK, OR ANIMAL CHARCOAL, are terms applied to carbon, in the condition in which it is obtained from the charring of bones or ivory.

JAPAN.—A hard, black and glossy varnish, and when submitted to a baking process is rendered most durable. Japanning was largely practised by the natives of Japan, who figure their wares with much artistic skill. It is much used in lanterns as a great preservative to the ironwork.

JETS.—*See* Blow-through Jet, Combination Jet, Oxy-calcium Spirit Jet, Electric Lamps, Centering Light, Saturators, etc.

KALEIDOSCOPE, FOR THE LANTERN. — The ordinary optical scientific toy, as invented by Sir D. Brewster, consists of two long narrow plane mirrors, meeting along one of the longer edges, inclining to one another at an angle of 60 degrees. They are then enclosed in a cylindrical tube covered at one end with a small peep-hole at its centre. At the other end between two glasses—the inner one plain and clear, the outer one finely ground—are placed a variety of objects, sometimes broken coloured glass, tubes of coloured liquids, and so on, which when turned and viewed through the peep-hole, present reflections of geometrical designs of great beauty and interest. With the lantern's aid, this optical toy has been made responsible for thousands of artistic patterns and designs, in colour printing, wall papers and calicos, and numberless other branches of trades, including many branches of the textile manufactures. It is somewhat vague to attempt an explanation sectionally, and how fitted to the optical lantern, without the aid of diagrams.

Suffice it to state, the kaleidoscope is placed in the lantern front between the condensers and the objectives, leaving the carrier aperture free to be used for kaleidoscopic slides.

KINETOSCOPE.—The name given by Edison to an instrument for viewing photographs taken in rapid succession, and in particulars on the principle of the animatographe, which already has been detailed in these articles. The pictures in the kinetoscope are not projected on the screen, but are seen in a small cabinet, where the spools are rotated and pass one to the other by electricity. Although the kinetoscope was the first marketable instrument of this kind, it must be stated in all fairness, that Mr. Green, London, of photographic repute, invented an instrument identically on the same lines in principle, details of which were given in the OPTICAL MAGIC LANTERN JOURNAL for November 15th, 1889, and commented upon by the London press, about four years before the kinetoscope was introduced to the public. — *See* Animatographe.

KEY AND SPANNER.—A useful tool, as it can be adapted to each make of cylinder.

KODAK.—A household word, and associated with hand cameras; there are many sizes for pictures, from about a 2 inch picture to almost any size. This apparatus is very compact, the finish good, and the results reliable. To those wanting a camera for lantern work, they would do well to obtain a prospectus from the Eastman Company.

LACQUER.—A varnish, commonly made by dissolving shellac in alcohol. By coating finished articles with lacquer their appearance is improved and preserved from decay.

LAMPS FOR LANTERNS.—Oil lamps are of various designs, those of the first importance being made of Russian iron, and have three and sometimes four wicks 1¼ to 2 inches wide. The air chambers should be spacious, and regulated so that perfect combustion is secured, the heat distributed and not allowed to accumulate, the glasses used should be thin, well annealed, and free from flaws. In lamps where mica is substituted for glass, much inconvenience is avoided, and the amount of light obstructed all but imperceptible. In most all lamps now made, the chimneys can be lengthened at will, an arrangement which is good, as by this means the draught can be adapted to flames of any size. Lamps should be kept scrupulously clean, and emptied directly after using. A piece of camphor dropped into the kerosene helps to whiten the light.

LANTERN.—A case for holding a light. — *See* Magic Lantern.

LANTERN BUILDING.—As the construction of the optical magic lantern, like other scientific instruments, embraces many branches of the mechanical crafts, and as the subject has been treated in detail in Vols. IV. and V. of the OPTICAL MAGIC LANTERN JOURNAL, any code of rules laid down here, would in their brevity be too conflicting to be of service. The attention therefore of anyone interested and being desirous of making for himself, is directed to the books above mentioned, in which a smattering of the cabinet work, tin and iron plate work, metal work and brass finishing, French polishing, etc., etc., is given.

LANTERN FRONTS.—The metal stages, plates, supports, etc., that carry the draw tubes, lens jackets, roller curtain, carriers, tanks, etc., etc.

LANTERN MANIPULATION.—Before laying claim to the appellation—lanternist, the aspirant should be an efficient manipulator of all apparatus pertaining to the work, including the management of exhibitions, etc. An operator is supposed to understand the working and management of a single, bi-unial, or triple lantern, together with a knowledge of making hydrogen and oxygen gases, the uses of saturators in practice, the adjusting of the microscope, the kaleidoscope, and the polariscope, and an insight into other matters relating to the lantern.

LANTERNISTS' DEN.—This term was first made use of in an article that appeared in the February number of the OPTICAL MAGIC LANTERN JOURNAL, 1892, and no doubt conveys its own meaning—"A place for study and laboratory combined." The number above mentioned gives full details.

LANTERNISTS' PRACTICAL CYCLOPEDIA.—*See* OPTICAL MAGIC LANTERN JOURNAL, Vol. VII., Page 180.

LANTERNISTS' NOTE BOOK.—A useful companion that appears annually, and is known as the Primus Pocket Book. It contains much information of special value to busy people, together with an almanac for sessional work.

(To be continued)

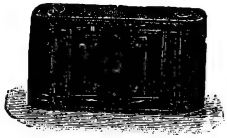
*Some Remarks on Lantern Slides.**

By ALFRED STIEGLITZ.

SLIDE making originated in the United States, it having been invented, as is claimed, by Langheim, of Philadelphia, some fifty years ago. It at once became popular, and continued to fascinate not only those interested directly in the production of slides, but old and young who simply wished to see pictures in an agreeable way.

Many of our best amateurs devote themselves exclusively to this branch of work, our Mr. Fraser being a notable example, notwithstanding the fact that most of the leading pictorial photographers of Great Britain and the Continent look down upon slide making as outside the "art limits," and therefore beneath their artistic dignity. It has become an accepted fact among them that the process is purely mechanical, and that at best the tonality of slides was incorrect. As for the declaration that slide making is purely mechanical, permit me to say, that after a conscientious winter's work in this line of photography, I have come to a different conclusion, and claim that the technique of slide making may be quite as interesting as that of the known printing processes, even including the gum methods which are now coming into vogue. Of that more anon. As for incorrect tonality, in most cases that is due

* Extract from *Camera Notes*, New York.



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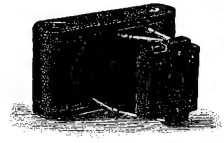

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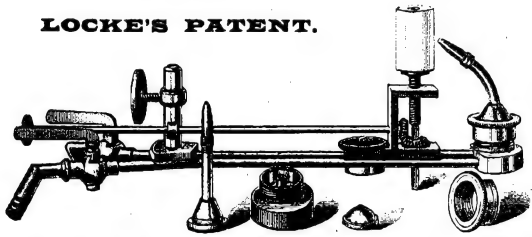

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This is the jet used by C. W. LOCKE at the Royal Albert Hall displays, where **the picture** (not the screen—termed by some, the disc) is the largest ever shown there, viz., 35½ feet diameter, at 167 feet. They are very economical, consuming 5 to 6 feet per hour only. Each jet is carefully tested and corrected before despatch.

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to the lack of knowledge and skill on the part of the slide maker, who has not given the matter enough study, or who perhaps does not quite grasp the material with which he is working. In order to properly appreciate a "picture slide," and in this talk remember I am only referring to "picture slides," the same must be shown under the exact conditions as prescribed by the maker, for the latter, if thoroughly at home in his work, will make his slides to suit the conditions of light and enlargement set down by him before he begins his picture. It is this factor that makes slide making so unsatisfactory, and discourages the earnest worker when he sees his slide on strange screens and quarters. Suppose I made my slide to be enlarged ten times and shown with a light whose intensity is L, so as to give the desired effect, and it is then shown enlarged to 20 *t* and a light with an intensity of I., what is the result? Entirely false values, and consequently a false impression. But does this not hold true of prints to a certain extent? How many gems are thoroughly ruined in exhibitions by poor hanging and still more miserable lighting. We see we must make the best of existing conditions, and only show our work there where we may expect reasonable attention to our intentions.

Standard of Slides in the Camera Club, New York.

The standard of the slides made in our club is high, for the judging on test nights has been unusually severe, even hypercritical, according to many members who do not understand the motives of the judges. Just criticism, though it may seem harsh at the moment, is exceedingly healthy for the welfare of the club. There is much, too much, back-patting in the ranks of photographers. Honest criticism from capable men ought to be sought, and, when given, ought not to be condemned as discouraging new talent and hurting the feelings of the spoiled children in the ranks. The judges appointed for the year judged slides for their quality, by which was understood the correct rendering of tone values in connection with the other technical requirements of a slide. "Clear glass for high lights and transparent shadows" did not constitute a perfect slide, as the old-timers imagine. A first-class slide, we will not speak of perfection, very rarely contains clear glass, the lack of tone in any part of it being a serious defect. On the contrary, we have seen instances in which a faint veil over the whole slide would have been a great improvement, the subject presented thus gaining in atmospheric delicacy and charm. It is well to remember that veil and fog are not synonymous in this case. Fog is always to be avoided in slides. A luminous body only should be represented by clear glass. We fully appreciate that our audiences nevertheless still go into raptures over the so-termed brilliant slide, by which is meant one lacking in all medium gradation; in short, a black and white one. Such a slide is an abomination to the refined eye, and fortunately our precepts are bearing fruit among our members, and will therefore in due season influence those who come in contact with them; that is, our audiences. A matter rarely considered by slide-makers is that of colour, and we are therefore confronted with bright red snow scenes, glaringly pink landscapes, blue architectural interiors, etc., which, though perhaps beautiful in all other respects, are entirely ruined by this shortcoming. This defect is often due to the desire to obtain softness at the expense of colour, for we all know that a soft slide is, as a rule, produced by a long exposure and a weak developer—the two factors which are also necessary in obtaining warm colours. In order to control the colour of a slide without sacrificing its gradation and quality, it is often necessary to resort to special toning methods. It is upon this matter, and also on my own method of developing slides, that I wish to dwell. The slides made by me during the past year were all produced in the manner to be described, and by special request I give you my working methods so that any one may be enabled to obtain similar results.

My Method of Developing.

Having given the plate a very full exposure, it is developed in the usual manner with any developer (I personally prefer hydrokinone), with the difference that development is not stopped until the image has totally disappeared when examining the plate by transmitted light. It is then rinsed under the tap as usual, and placed in the hypo bath until thoroughly fixed. Upon examining the fixed slide it will be seen that it is not only so thick that you can hardly recognise the picture, but that it lacks all gradation in being muddy and flat. But this condition is necessary for future operations, all of which take place in broad daylight. On a table place two white porcelain dishes. The one, which we distinguish by calling it A, should contain a one per cent. solution of ferricyanide of potassium, and the other, B, a very dilute solution of hyposulphite of soda and ferricyanide of potassium, say:—

1. Ten per cent. solution of hyposulphite of soda.

2. Ten per cent. solution of ferricyanide of potassium.

For use, take 100 parts of 1 and 15 drops of 2.

These baths must be renewed occasionally, as they deteriorate in the light.

In each dish place a small camel's-hair brush and a wad of cotton, which latter may be shaped at will to suit the purpose for which it may be intended. If possible, have the table near running water, otherwise have a pailful at hand, as plenty of water is essential for the delicacy of some of the operations to be performed.

Local Reduction to Build Up Tone Values.

As before stated, in examining the fixed slide by transmitted light, very little of the image will be visible. In order to facilitate matters, bring the slide directly from the fixing bath without previous washing, into dish A, in which it will be gradually reduced. Stop the reduction as soon as the image is fairly distinct. This is done by plunging the plate into water, thus stopping all chemical action. The slide is still very thick and flat, but it is now in a satisfactory condition for local treatment and the ultimate thinning down to the desired density.

In this state the slide is placed in dish B, and local reduction by means of the brush is begun. This process must be very gradual, so that it be in our power to alter our relative tone values or gradation at will. You notice in this local application of the reducing agent we in reality have the reverse of brush development in platino-type printing, with even a much greater leeway. The process of producing slides by this method is highly interesting, for effects not otherwise possible can, with a little skill, be obtained.

It is by this method that some of those striking snow scenes, shown during the winter, were produced. Originally the slides of these were considerably overtimed and overdeveloped, and then reduced in the above described manner. Between every stroke or two of the brush, it is well to rinse the plate, so that the strokes do not show in the ultimate result. No brush strokes ought to be visible when the slide is thrown on the screen; if any be detected the slide is a failure and ought to be discarded. With a little skill in practice, this method is very simple and safe, and anyone having succeeding in mastering it will never resort to any other method of producing slides.

Naturally, it is essential to know something of tone values, as the resulting slide might otherwise be ludicrous in its effect. This process of developing a slide is necessarily very slow, forcing being at no stage admissible, as it would insure certain failure.

The Use of Formalin.

In winter the gelatine is sufficiently tough to withstand this seemingly rough treatment, but in summer it is well to soak the slide before the brush reduction is begun in a very weak solution of formalin for about a minute and then rinse thoroughly. The solution used by me is 1,000 parts of water to one part of formalin. Sometimes the resulting colour of the slide produced in the above described manner is objectionable and possibly rather uneven. To overcome this defect, the slide must be toned in a suitable bath. Among the many experiments made by me, the following will interest you most:—

Toning.

In many cases it is desirable to colour a slide to a pure blue, or perhaps only a suspicion of blue. An absolutely reliable method to obtain this colour is to use the following bath:—

Blue.

I.	Sulphocyanide of ammonium ..	200 grains.
	Water	32 ounces.
	Carbonate of soda (granular) ..	2 grains.
II.	Chloride of gold (brown)	15 ,,
	Water	1 ounce.

(To be continued.)

Enlarging, etc., on Transferotype Paper.

By EDMUND A. ROBINS.

I MENTIONED at the end of my notes on bromide enlarging, in the October number of the Optical Magic Lantern Journal, that I would give instructions for the production of enlargements upon transferotype paper, and a word upon the nature of the paper will be useful as an introduction.

Transferotype paper is an ordinary bromide emulsion coated upon a paper which has upon it a substratum of soluble gelatine, the emulsion itself being insoluble. The paper is treated in exactly the same way as ordinary bromide paper in the first stages, but when the image is produced it may be transferred to any support, and the paper stripped off, leaving the image upon the support. For enlargements the same manipulations are required as for bromide paper, with this exception: in the transferring process the back of the support is uppermost, and therefore the back of the image is also uppermost and is therefore reversed. This does

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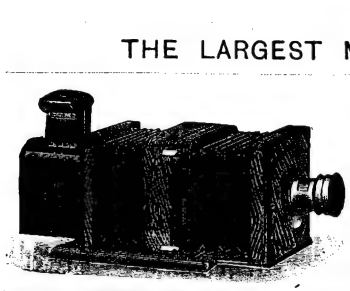

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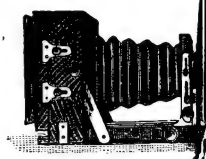

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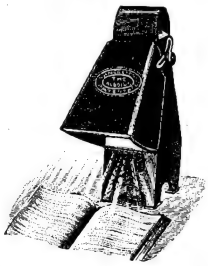

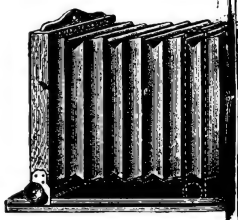

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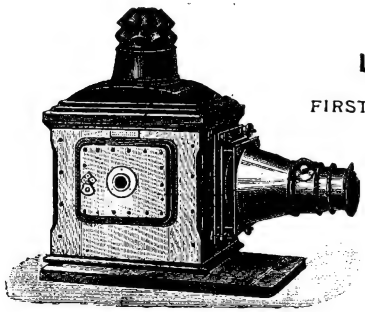

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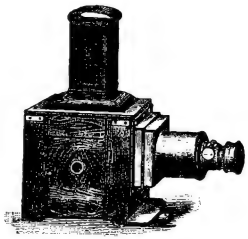

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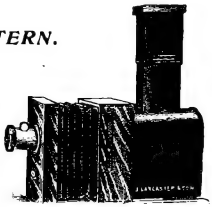

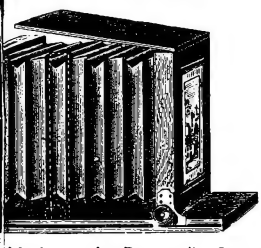

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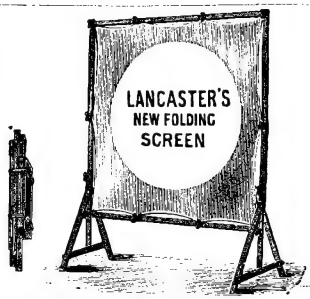

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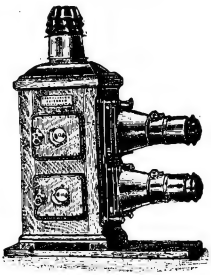

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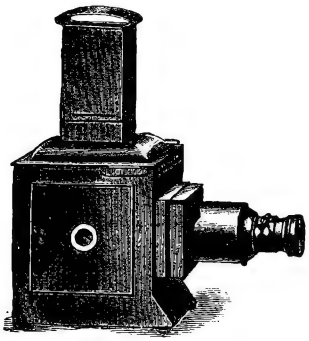

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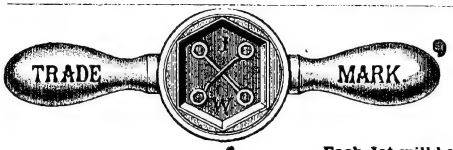

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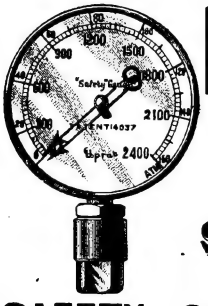

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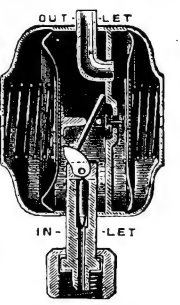

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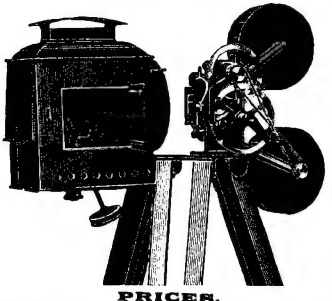

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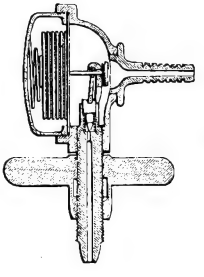

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not matter if the picture is to be viewed by transmitted light, but if the final support be opaque the negative must be reversed, viz., the *glass* side must be towards the lens instead of the film, as is usual, then when transferred the picture will be right as regards right and left. The exposure is such a variable thing that it is impossible to give any directions, but a small strip of similar paper should be exposed as a test, and developed beforehand; in contact printing, with a good negative at 2 feet from a bats-wing burner, about 18 seconds will be required, but this is only approximate. The following developer is much used:—

A	Potassium oxalate	16 ounces.
	Water, hot	48 ,,
	Acetic acid	3 drams.
B	Iron sulphate	16 ounces.
	Water, hot	32 ,,
	Acetic acid	½ dram.
C	Potassium bromide	1 ounce.
	Water	32 ounces.

For use, add 1 ounce B to 6 of A (and not *vice versâ*) and 30 minims C. Soak the paper in water until limp, and then immerse in the developer; the paper should be handled as little as possible, as finger marks invariably show; traces of hypo and pyro are fatal, as they give black stain. Develop fairly dark, especially if the print is intended for viewing as a transparency; when fully developed, without washing, flood the print with a 2 per cent. solution of hydrochloric acid, and allow to remain on for about 6 minutes, changing once or twice if a large print, then wash in a few changes of water, and fix in a 20 per cent. solution of hypo, and afterwards well wash and allow to dry spontaneously; do not use an alum bath, as the print cannot then be transferred.

The above developer has many disadvantages, and the following can be highly recommended, as it is very clean and rapid in working, and does not stain either the fingers or the print. I gave it last October for bromide paper, but will repeat it for the benefit of those who have not seen the former article.

Amidol	½ ounce.
Sodium sulphite	2 ounces.
Water	80 ,,

This is at once ready for use; if too rapid, dilute with water, or add a very small quantity of a 10 per cent. solution of potassium bromide. Too much of the solution should not be made up, if it is not going to be used at once, as it soon oxidises, although it may be used if not too brown. No cleaning solution is required, the prints being thoroughly rinsed and fixed in hypo as above.

The transferring process is as follows, and is very simple:—The dry print is soaked in cold water and squeegeed down upon the surface which is destined to receive the picture, applying the squeegee vigorously to ensure absolute contact. Any substance can be used, providing it can stand the application of hot water. The surface must be perfectly free from grease or dirt, and it is advisable to wash with a solution of caustic soda or washing soda those articles which will stand the treatment. When squeegeed the print is allowed to dry under pressure, blotting paper being placed over it; when dry run hot water (about 120° to 180° F.) over it until the paper blisters, a pin is then run under the edge and the paper gently pulled off. This is best done while the print is under the surface of the water, the surface of the print is then gently rubbed with a tuft of cotton wool and allowed to dry spontaneously. This process has numerous applications. By it large window transparencies can be made at a very moderate price; opals are easily made, and are more permanent than those in which the emulsion is coated direct upon the opal, as the hot water most effectively removes all the last traces of hypo; lantern slides can be printed by contact or reduction, and transferred to the glasses of wasted lantern plates; lamp shades can easily be decorated and wood panels also, and the prints can be transferred to canvas. For use as a basis for printing the canvas must be prepared as follows:—Soak 1 ounce of gelatine in 6 ounces of water and apply heat until it dissolves; add to this 5 ounces of whiting made into a cream with water, and to this mixture add

Glycerine	1 ounce.
Acetic acid	½ ,,
Methylated spirit ..	1 ,,
Chrome alum	25 grains in 2 ounces of water.

Apply mixture to the canvas while warm, and sandpaper between each coat; when dry the prints are transferred as above. These prints can be used in the ordinary way and burnished, and glacé prints can be produced in the usual manner. In printing contact prints from thin films the celluloid side may be placed in contact with the paper, otherwise in transferring the print it will be reversed, the thickness of the film making no appreciable difference, if the frame be held some distance away from the light, proportionately increasing the exposure.

Transferotype prints can be toned by means of the hypo and alum toning bath, given for bromide paper in last article.

Free Loans of Slides for Lantern Lectures.

By RALPH ASHCROFT.

A LIST of sources from which lecture sets of slides may be borrowed free, will probably prove of interest to many of your readers. — Messrs. Cassells, Limited, Educational Department, La Belle Sauvage, Ludgate Hill, London, E.C., have just prepared a lecture entitled "The Building of an Empire," which describes in a simple and interesting way the gradual growth of our nation and empire from the earliest times. The lecture is illustrated by 23 excellent slides. — Messrs. George Newnes, Limited, 8, Southampton Street, Strand, W.C., have four first-class sets of about 60 slides each.

Many are beautifully coloured.

High-class lectures are forwarded to applicants in advance for previous study; they are entitled "Popular Authors and their Work," and "Popular Periodicals and How They are Produced." — The High Commissioner for Canada, Victoria Chambers, 17, Victoria Street, London, and Mr. John Dyke, Water Street, Liverpool, Canadian Agent, lend, and send carriage free, 100 slides descriptive of the geography and scenery of British North America. — Mr. Sydney Coryn, 67 and 68, King William Street, London, E.C., advertises that he will be pleased to deliver his illustrated lecture, entitled "Through Canada with a Magic Lantern," free of all cost to schools and institutes in the South of England. — Messrs. Cook, the famous tourist agents, whose offices are found all over the kingdom, have announced their willingness to lend lecture sets to those who have taken part in any of their excursions, and descriptive of the place visited. If any interested reader has not himself been on any of Cook's excursions he may probably know friends who have, and could apply through them. — The Association for the Promotion of Home and Foreign Travel, 41, Gracechurch Street, London, lends slides illustrative of tourist's haunts in the British Isles and on the Continent. — The General Manager, Great Eastern Railway Company, Liverpool Street Station, London, has had prepared upwards of 160 pictures, divided into sets, of East Coast places and scenery with descriptive handbook. These are designed to be lent more particularly for use in the neighbourhood of London and the South of England. — Mr. Thomas Laurie, Publisher, 28, Paternoster Row, London, lent us an intensely interesting set of 30 slides — from photos by an eminent journalist — entitled "The Siberian Convict System." This set was prepared for lectures in the interests of the Free Russian Society. — Band of Hope Unions and Temperance and Missionary Societies possess large collections. Those having local connections may generally be applied to with success. The writer borrowed four sets in this way. — The Union Steam Ship Company, Ltd., South African House, 94 to 98, Bishopsgate Street Within, London, have a large selection comprising 84 interesting views of South Africa, which they will be glad to lend. — The following have also sets of lantern views of their Colonies which they lend gratis, and also generally send free therewith a number of pamphlets for distribution amongst the audience:—The Agent-General for New Zealand, Westminster Chambers, 13, Victoria Street, London, S.W.; the Agent-General for Western Australia, 15, Victoria Street, London, S.W.; and the Agent-General for Tasmania, Westminster Chambers, 5, Victoria Street, London, S.W.

An Opaque yet Folding Screen.

By W. HYDER.

AS I see some of our readers are in trouble with their lantern sheets, they may find the following useful; it is what the French painters call *claire colle*, and I have found it render the sheet opaque, and leave it soft so that it can be folded or packed without cracking.

Wash the sheet in pure water, without soap or soda, and streteh down on a clean floor. When nearly dry brush on the following mixture with a large soft distemper brush as evenly as possible:—Soak 4 lbs. best washed whiting in cold water for two hours, pour off all superfluous water, take as much ultramarine blue as will lay on a penny, mix with a small quantity of water and stir well into the whiting; melt 4 lbs. clear size almost to boiling point in an old saucepan, then add one tablespoonful of boiled oil and stir well in. Have ready 1 oz. soft soap and ½ oz. alum, dissolved in boiling water in separate vessels, pour the size into the whiting, then the soft soap, and last the alum, stirring well all the time. This must be done in a large pail as it rises like yeast, but goes down again with stirring.

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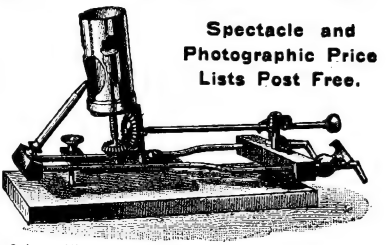

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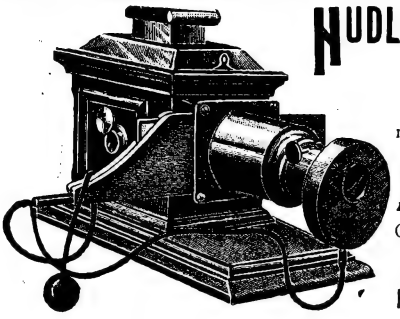

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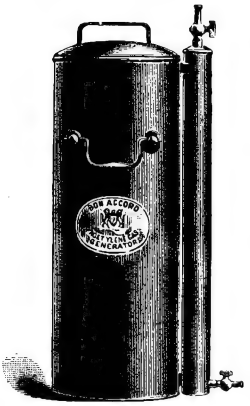

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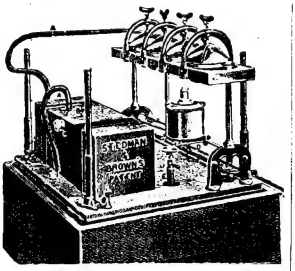

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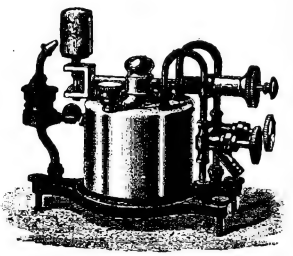

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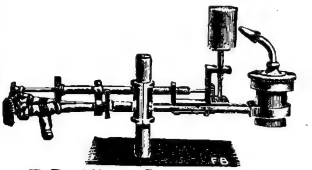

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Selecting Negatives for Slides.

By S. T. PERKINS.

THE lantern season is fully upon us, and many photographers are probably thinking of exhibiting some of their work, if not in public, at any rate at private gatherings of their friends. Those who are contemplating public exhibition of their work are probably experienced workers, both as photographers and lanternists, and their negatives have most probably been made with the view of printing from them, either by contact or reduction, lantern slides. Possibly their negative making has been systematic, intended to illustrate certain subjects—geology, architecture, the topography of some district at home or abroad, some special industry, or some summer holiday. For such workers as these this paper is not written: but for those, and there are many such, who as the result of their summer work have a heterogeneous mass of negatives of all kinds of subjects—landscape and seascape, portraits, groups, animal studies, street scenes, architecture, etc. The negatives number possibly several hundreds, and if all were reproduced as slides far more than necessary would be made. The work of selection must therefore be begun and in this article I intend to give a few hints which may be useful to the inexperienced in making a selection. First, all technically bad negatives must be cast aside, especially any that, from under-exposure, yield black and white prints, these never produce good slides; delicate negatives full of detail and with good definition are the best to use; from a somewhat flat negative an

excellent idea

may sometimes be obtained by printing with a weak light and developing with a somewhat strong but well restrained developer. But it is rather the subjects that I want to speak of; for many good slides do not interest a general gathering of friends who are not photographers. Portraits as a rule had better be left alone. The originals will not care to see colossal images or even life-size representations of themselves, for in slides, when projected on the screen, the various defects that exist in all faces are sure to be exaggerated. A bromide enlargement of a portrait up to anything like life-size has almost always to be well worked up in crayon before it satisfies the person whom it represents, and hand-work on a lantern slide portrait is entirely out of question, even the retouching on the original negative is pretty sure to be obtrusively evident. Groups, however, often excite great interest if any of those present at the exhibition are represented in the group on the screen. Street incidents, especially any of a comic nature, almost always please, and animal studies, if good, seldom fail to call forth applause.

A few good architectural slides of buildings known to the spectators either by repute or personal knowledge may always be introduced with advantage: but too many of these soon pall upon those who are not specially interested in the subject. Sea views are generally popular, whether they represent a lovely summer sea full of sunlight, with boats lying idly on the water, their reflections scarcely blurred or broken by the almost imperceptible pulsations of the water, or rough waves curling over on the beach or broken into spray on rugged rocks.

Landscapes

are seldom satisfactory. I am a member of a lantern slide circulating club, which every quarter collects and sends round a box of some 60 slides of some special class of subjects, sea and river, animal and figure studies, architecture, landscape, and I find invariably that the landscape box is the least interesting of the series.

The best landscape subjects are those which represent some special phase of nature—a gathering storm, trees and hedgerows clothed with hoar frost, a sunset or sunrise, a sombre day on some foreshore or heathland intersected by pools or sluggish streams of water, effects of mist among hills or over streams or lakes; anything, in fact, rather than the mere pretty view, the view that in nature charms the eye principally by the beauty of its colour, the distant hills of blue or purple, the bright green of foliage and grass, or the wide open landscape that gives the beholder the sense of space and freedom, for these things are but inadequately represented in the image of the lantern slide thrown on the screen.

When the negatives are selected the slides must be made, and in order that the exhibition of these may please, the photographer should not hesitate to judge his own work severely. If he finds any of the slides are not up to the mark, he should clear off the film and use the cleaned plates for cover-glasses, and try if he cannot obtain a better result on making a second, or even a third attempt to get a slide from the same negative; if he cannot, possibly the negative may be at fault, and must be passed by.

In order that the slides when shown may not weary by the monotony of their tone, the colour should be varied to suit the subject, coal black and grey for hoar frost or snow views, and the misty effects of winter; various shades of brown or red for landscape and architecture, and grey or brown according to circumstances for sea pieces. The way in which these various colours may be obtained, may be learned by referring to the *Magic Lantern Annual*, 1897-98, pp. 93-95. Blank white skies are trying to the eyes of spectators, at any rate when there is much of the sky shown on the picture; so if any landscape is destitute of suitable clouds, these can be printed on another lantern plate, which when fixed, washed and dried, can be used as a cover-glass. Or the method described in the *Annual*, pp. 45-46, may be adopted, and the slide-maker should aim at softness, not at a false meretricious vulgar sparkle in the slide; for though a slide possessed of this sparkle is often greeted with loud applause, yet the effect is stagey and not natural, and it is only bad taste to admire it. A quiet and more life-like rendering of nature is sure, in the end, to win greater approval from those whose judgment in matters of taste is more to be relied on to form a true estimate of the value of the picture.

The Characteristic Effects of some Popular Developers.—I.

By EDWARD DUNMORE.

DEVELOPERS we all know are solutions used to evolve the latent image formed by the action of light on certain prepared surfaces; this evolution being the act of development. Developers have all distinctly characteristic effects; the image produced by one may be more suitable for an intended purpose than another, but in all cases the best developer is that which will produce the greatest range of tone from clear glass to perfect opacity, with a correct rendering of the intermediate colour values, inasmuch as development has any influence in this direction. Different workers give preference to different combinations, succeeding better with one kind than another, showing that the process is something more than purely mechanical, which would, with the same materials and methods of working, produce the same effect, whoever used it.

Since alkaline development became universal comparatively few out of many developing agents have become popular. Pyrogallic acid, or more correctly, pyrogallol, is far and away most generally used, in combination with either ammonia or sodium carbonate. This was the first developing agent introduced to work with an alkali, and take it all in all it retains its popularity on its own intrinsic merits; although many other substances have been invented possessing special qualities, nothing as yet has superseded pyrogallol as a useful all-round developer. Sometimes familiarity with a substance, engendered by years of working with it, causes other less familiar substances to be severely handicapped; but in this particular instance, if anything else would have done as well, the unfortunate staining propensities of pyrogallol would undoubtedly have led to something being substituted for it; but up to the present time it retains its popularity. It goes without saying that an

experienced photographer

will make a good negative with almost any developer; at the same time some special kind will be preferred for general work, the favourite kind for one will not be that selected by another.

Experience shows that developers, compounded with the fixed alkalies, soda and potash, are rather more uniform in action and under somewhat easier control than those compounded with ammonia, which on account of its volatility is apt to vary in strength. If we institute a comparison of results we find, providing equal skill has been exercised in development, the chief difference is in the colour, and also a slight difference in the granularity of the image. Now, as to the best colour for a negative there are widely varying opinions; very much depends on the method of printing adopted; at the same time a thoroughly good negative will produce good prints with any kind of printing-out process. An ideal negative is one that will print with tolerable rapidity, give rich shadows full of detail, and the lights full of delicate gradation, the scale of tones ranging from perfect opacity to perfect clearness, of which two extremes there should be a very small proportion distributed over the negative.

One of the most important factors in a negative is its colour. My inclinations are to an image of a brownish olive as offering the maximum resistance to light with the least amount of density, and producing prints that will tone a good colour, for it must be borne in mind that the colour of the negative influences the

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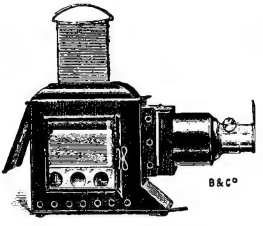

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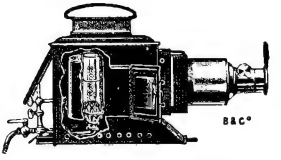

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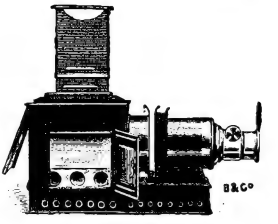

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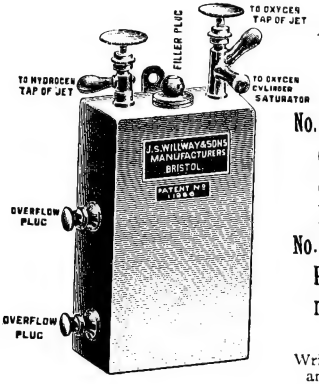

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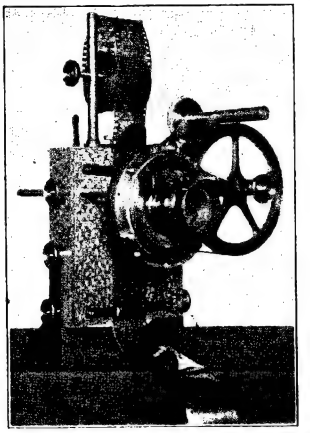

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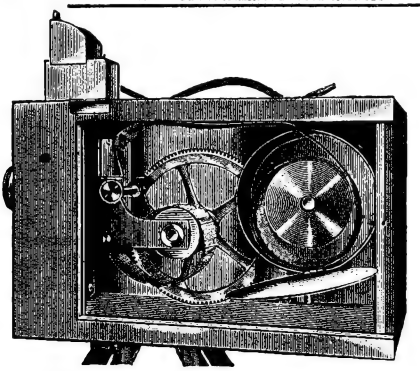

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colour of the print always a little, and in some cases very considerably. Prints from a thin negative, reinforced by being exposed during printing under pale yellow glass, are invariably colder in colour, both in the untoned as well as toned conditions.

Many negatives that appear all they should be, give very disappointing results. Too much is often thought of the negative itself without reference to its ultimate use—that of producing prints. A negative may be a "pretty" negative, and yet not worth the glass it is on as a print-producing agent. Even those constantly used to handling negatives would hesitate to give a decided opinion on some, until they had been proved. Shades of colour scarcely distinguishable from each other make a marked difference in the results. A negative may be dense and black, and yet print more quickly than a much thinner one of a different character on this account. Hydrokinone developed negatives require to be apparently stronger and denser than those made with pyrogallol in order get the same printing powers.

In working with a developer to which one is unused, it is often difficult to get exactly the right printing density for this reason. To exemplify the resistance of different shades of colour to light, the following is an

interesting experiment

—place on a piece of sensitive paper a small strip of clean gelatine, one of a film, not exposed but fixed, clear glass and tracing paper; there will be no, or very little, colour apparent in any of these; yet on being exposed for a short time to diffused light, a considerable difference will be seen in the varying depth of colour under each strip; the inference to be drawn is, when no appreciable colour causes a difference, how much more will slight tints of yellow, brown or grey, the usual condition of a negative film, cause? As a rule, very quickly printing negatives do not produce such rich prints as those that print more slowly; it seems that a negative must have a certain amount of resistance to light, more than is actually necessary to produce a print, if the image is expected to pass through the toning and fixing processes satisfactorily, and still more certainly if it is expected to be fairly permanent.

A very small proportion of photographic prints show all the detail that exists on the negative; the best in this respect perhaps are good glass transparencies, which fairly represent the tones and gradations as they are shown in the negative image, especially in the lights, which are a crucial test in photographic prints of all kinds; we have only to call to mind groups of figures taken in full sunlight, and notice the patchiness of effect and hardness of the higher lights that are usually rendered under these conditions. There is no doubt this can be avoided and has been by some clever workers who knew exactly the kind of developer to use and exposure to give; the fact that such groups can be taken in the open air in full sunshine negatives the idea that skilful manipulation of the light had anything to do with the effect, which purely a matter of proper balance of chemicals, suitable plates, and correct exposure, with of course the skill how to make the best use of them. Formerly the whole process of negative making rested with the photographer; now everything is done for him, which, although it may be very convenient, does away, in a measure, with the control over his materials that he once had. So much then for the negative itself; the means of producing it vary as much as the operators themselves, one making choice of one

special combination

and another of another, the result in all cases may be equally good, but probably of a slightly different character. Say we take pyro-ammonia, which is considered, and rightly too, an excellent all-round developing agent, and in skilled hands will produce the highest class of work. Suppose we have the constituents of this developer in 10 per cent. solutions, we are provided for all kinds of work so far as the developer is concerned, the skilful apportionment of the different items will result in satisfactory work of definite character that may be predetermined. This developer will not remain mixed for many minutes without undergoing decomposition, and during development the change is still more rapid until it becomes inert as a developer, but potent as a stain.

We all know that decomposition is a necessity to produce an image, and that as soon as ammonia comes in contact with pyrogallol, the latter substance rapidly absorbs oxygen and darkens in colour until it becomes so decomposed, that instead of a clear, we have a muddy solution, utterly useless for our purpose. The long continual action of pyrogallol on the sensitive plate after it has become coloured produces what is termed pyro-stain, which seems to be a combination of the pyrogallol with the gelatine itself, and entirely independent of any action with the bromide of silver that we are endeavouring to reduce to form our negative.

(To be continued.)

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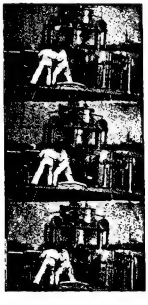
PHILIPP WOLFF'S CINEMATOGRAPHIC FILMS.

Mr. Wolff, of 9, Southampton Street, Holborn, W.C., is continually adding to his stock of cinematograph films, some of his latest being illustrative of scenes in connection with the Indian mutiny, and also an excellent scene



depicting Charles I. taking leave of his family. These film pictures, although small, are wonderfully sharp, clear, and full of detail, consequently will stand enlarging to any extent. We append photo-mechanical illustration taken from one of the war series, showing the transparency in exact size.

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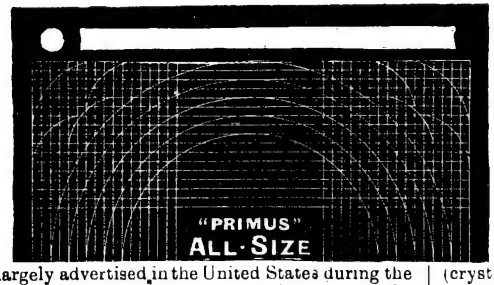
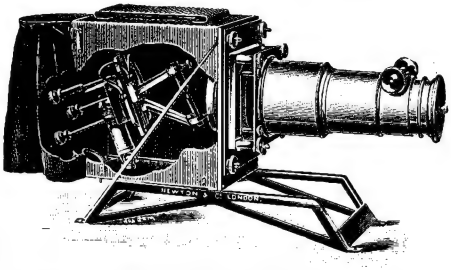
Messrs. Butcher & Son have introduced into this country a new form of slide mat which has been



largely advertised in the United States during the past year, where it was patented a year ago by Mr. Olmsted. It consists of black paper 3¼ inches square, on which are certain lines in white, as shown in the illustration, which only includes one half of the mat. These lines serve as a guide for cutting out an opening of any size desired in the form of circle, square, or cushion. A place is also reserved in white on which the name of the subject of slide can be written. These mat blanks are put up in boxes of 100 for a shilling, and will be found excellent in obtaining mats to suit the subject of any slide.

THE INDIAN LANTERN.

Messrs. Newton & Co., of Fleet Street, have brought out a new lantern specially designed for use in the tropics. The instrument is made



entirely of brass, and is fitted with long focus lenses. It is provided either with limelight or electric fittings. The apparatus is so made that at a moment's notice the entire cover can be removed without disturbing either the light or the optical portions. As will be seen from the diagram, the stand of the lantern is also of an improved type.

NEW DEVELOPER, ORTOL (HAUFF).

Messrs. Fuerst Bros., of 17, Philpot Lane, E.C., have sent us samples of the above new developer. It, in contradistinction to metol, amidol, etc., can be readily restrained by means of a few drops of a solution of bromide of potassium. With this developer the image appears in about half a minute, and in five minutes the image is fully developed, the result being a negative possessing excellent printing qualities. We append particulars for using as supplied by the makers. — Solution A: Water, 10 ounces; metabisulphite of potash, 35 grains; ortol, 70 grains. Solution B: Water, 10 ounces; sodium sulphite (cryst.), 1½ ounces; carbonate of soda (cryst.), 1¾ ounces. For studio portraiture, etc., take 1 part A, 1 part B. For landscape negatives

RILEY BROTHERS,

PRIZE MEDALLISTS, CHICAGO EXHIBITION.

55 and 57, GODWIN STREET, BRADFORD, ENGLAND,
and 16, BEEKMAN STREET, NEW YORK.

Having Branches also in Boston, Chicago, Kansas City, and Minneapolis, and at Dunedin, N.Z., we are prepared to prove that we are

THE LARGEST LANTERN OUTFITTERS IN THE WORLD,

and being extensive Makers and Exporters can command the best terms, and are therefore able to

SUPPLY OUR CUSTOMERS WITH THE BEST GOODS

at prices (when value is considered) much below ordinary dealers.

Our "PRAESTANTIA" Lantern at **£4 4s.**

(fitted for Oil) is acknowledged by hundreds to be the BEST, BRIGHTEST and CHEAPEST LANTERN in the TRADE.

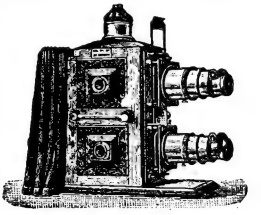
Or if fitted for OIL and LIMELIGHT £4 15s.

Fitted with LAWSON SATURATOR £5 10s.

It is the Banner Lantern of the World.

We have sold more of this Lantern than can be proved of any other Lantern in existence, and have thousands of testimonials to its worth from every part of the globe.

Don't go away with the idea that this is our only Lantern that has produced a sensation in the market, Our



Prize Medal "Monarch" Bi-unial, at £21 10s.,

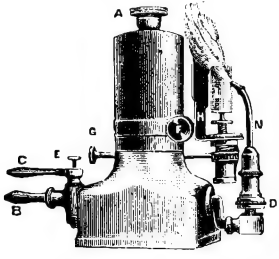
Has the largest Sale of any Bi-unial Lantern in the market, and gives Universal Satisfaction. Fitted with the

NEW 1,000 CANDLE POWER LAWSON SATURATOR, £24 10s.

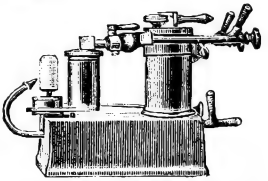
Giving a light never yet got by any Bi-unial offered.

IT IS SIMPLE TO WORK, AND SAFE IN ANY HANDS.

If you want the best of everything in the lantern world consult us, we supply information gladly.



LAWSON Patent SATURATORS



For Single and Bi-unial Lanterns. Have many imitators, but no equals. They were first in the field, and take the lead still. Simple, safe, economical. Giving the brightest form of Limelight attainable. Over 2,000 now in work. Write for particulars of the New 1,000 Candle-power Bi-unial Saturator. An immense success.

OUR NEW SETS for this Season include: "The Victorian Era," "Our Brave Firemen," "The City of Mexico," 9 New Illustrated Songs, "Manners and Customs of the East," New sets of "Moses" and "Joseph," "Hawaii," "Niagara," "New York to Niagara," "Life of Luther," "Yellowstone Park," "Old New York," "On the way to Klondike," and many others.

OUR HIRE DEPARTMENT (50 slides loaned for 3s.) is the largest and most complete in the world. Best Sets published added yearly. Outfits sold on Monthly Payments System. For Particulars and Catalogues write

RILEY BROS., 55 & 57, Godwin Street, Bradford, England.

Catalogues, 6d. Hire List, Free. Buyer's Guide, 1½d. Operator's and Hirer's Guide, 2½d., free by post.

Price One Penny Weekly.

NEWS OF THE WHEEL

A High-Class Cycling Journal.

Which appeals to all, but especially to those who ride for Recreation only.

"News of the Wheel" is the sole accredited Organ of the following Society Clubs:—Whitton Park Club and Trafalgar Bicycle Club, South Kensington; it also circulates amongst practically every high class Social, Golf, Photographic, and similar Club in the United Kingdom.

REGISTERED AT THE GENERAL POST OFFICE AS A NEWSPAPER.

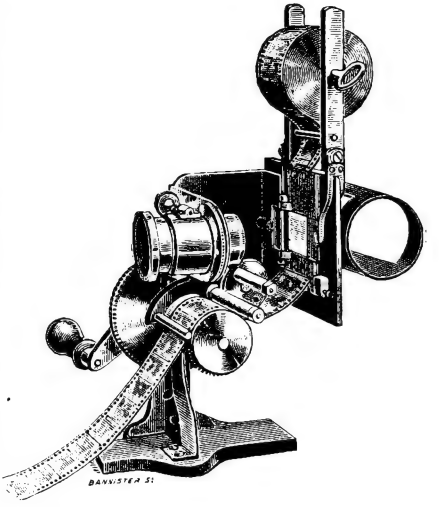
MISS BEATRICE LAMB. R. W. Thomas

Publishing Offices: 273, Strand, W.C.

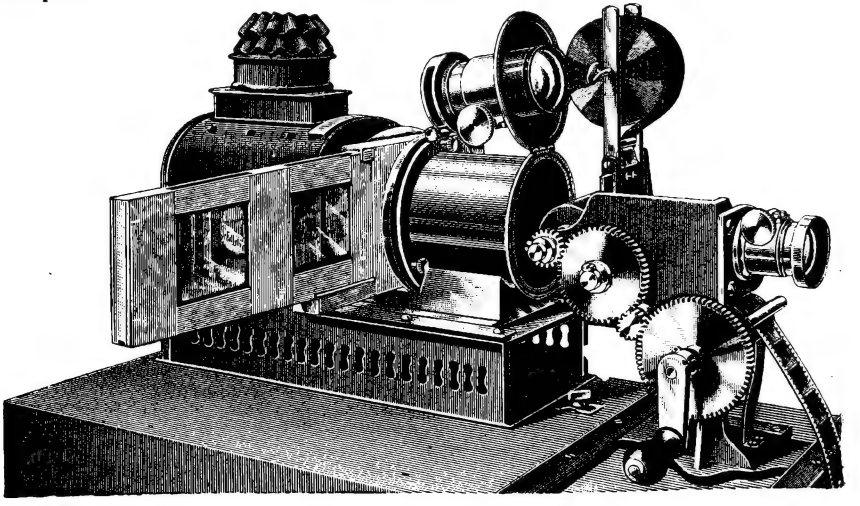
take 1 part A, 1 part B, 1 part water. In the summer time add to 1 part B 4-8 drops of a 10 per cent. bromide solution : or use 5-10 grains of bromide of potassium (cryst.) in 10 ounces solution B.

WRENCH'S CHEAP FORM OF CINEMATOGRAPH.

A cheap but very reliable cinematograph has been brought out by Messrs. Wrench & Son to sell for £9 9s. It works on a slightly different principle to those of the same firm which have been described in our columns, inasmuch as the sprocket wheel makes no stoppage during the running of the machine, the film being rendered stationary during the time of projection, by means of a cam motion. The apparatus is supplied either separately or with a lantern complete; in the latter case the lantern is fitted with a patented means whereby the ordinary lantern lens can be instantly hinged out of the way, as shown in the illustration. By means of the rod shown, a film is held is position between the two uprights ; these uprights folding down for packing purposes. The end of the film is then placed behind what may be termed a spring door, which serves the purpose of keeping it taut at the focal plane, and also preventing any side play. The film is thence led under the roller cam and on to the sprocket wheel, on the teeth of which the perforations in the film engage. A simple and ingenious device here comes into play. When looking at the picture opposite the aperture when the shutter is open, it may or may not happen to fall into exact register, and if the difference be very slight an opaque mat surrounding the picture



can be moved either up or down by a touch on a small lever at the side, or the sprocket wheel itself may be rendered to run free and can thus



be moved backwards or forwards. When running the machine there is no possible chance of the film clinging to the sprocket wheel as the upright spring shown against the sprocket wheel ensures the falling off of the film at the right time.

We have lately had one of these instruments in use and found it to work excellently.

The higher types of cinematographs made by this firm are provided with mahogany bodies—one of these was in use at the Alhambra for 16 weeks, and has just been re-engaged for a further term—and have been brought out in an improved form, the baseboard having been made sufficiently wide to allow of the cinematograph being drawn away from the optical centre, so that the telescopic front, which is hinged sideways, can at once be brought into position for ordinary projection. The lantern stage is made extra wide to allow for separate divisions for the slide carrier, and also for the water or alum tank, and to compensate for this the condenser is 4½ inches diameter. A lining of asbestos is also placed between the wooden body and the Russian iron lining.

The apparatus which was recently shown before Her Majesty the Queen at Balmoral, as mentioned in another column, was made by this firm.

SPOTTING-OUT AND RE-TOUCHING PALETTE.

Mr. W. Tylar, of Birmingham, has lately introduced a neat little palette containing seven colours applicable for spotting out defects in negatives, prints, films, blocking out skies or re-touching enlargements. These colours will stand burnishing without blurring.

———:o:———

PATENT INTELLIGENCE.

The following List, relating to current Patent Applications, is compiled expressly for the "Optical Magic Lantern Journal" by W. P. Thompson & Co., Patent Agents, of 322, High Holborn, London, W.C., to whom all enquiries for further information should be addressed.

No. RECENT PATENT APPLICATIONS.

23377. 12th October, 1897. A. Wrench. Improvements in stages of optical lanterns.

23435. 12th October, 1897. L. E. Hopkins. An improved automatic slide carrier for optical lanterns.

23540. 13th October, 1897. E. Bell, J. Mohr, M. Lechmer, and W. Krauss. Improvements in lanterns for producing kinematic pictures.

23917. 18th October, 1897. R. W. Sharp. Appliance for photographing by acetylene light.

24273. 20th October, 1897. Improvements in or relating to operating the films for animated photography and apparatus therefor.

24301. 21st October, 1897. J. McConechy. Improvements in apparatus for the production of acetylene gas.

24707. 25th October, 1897. C. Guy. Improvements in apparatus for the production of acetylene gas.

24804. 26th October, 1897. D. Hymmen. Improved pictorial cards or strips applicable for postcards, panoramas, kinetoscopes, cinematographs, books, albums, maps, and the like.

24860. 27th October, 1897. H. Wilson and T. Mitchell. Improvements in or relating to the generation of acetylene and other gases.

25025. 28th October, 1897. G. R. Spooner. Roller guide and sluice for tailing the film over and off the sprocket wheel of a cinematograph.

25625. 4th November, 1897. E. F. Moy and G. H. Harrison. Improvements in or relating to apparatus for taking or displaying a series of photographic images in rapid succession.

25800. 6th November, 1897. J. W. Scarth and W. A. Thornton. Improvements in or relating to lamps for burning acetylene gas.

25801. 6th November, 1897. J. W. Scarth and W. A. Thornton. Improved apparatus for the generation of acetylene gas, and the like purposes.

25949. 8th November, 1897. C. Duval. Improvements in apparatus for generating acetylene gas.

25952. 8th November, 1897. The Acetylene Light Syndicate, Limited, and J. Gare. Improvement in the manufacture of acetylene gas.

26091. 9th November, 1897. J. Heissenberger. A coin operated machine for exhibiting pictures.

26382. 12th November, 1897. J. W. Scarth and W. A. Thornton. Improvements in or relating to lamps for burning acetylene gas.

26460. 12th November, 1897. P. Mortier, C. Rousseau, and G. Rousseau. Improvements in apparatus for exhibiting animated pictures. (Date applied for under Patents, etc., Act, 1883, Sec. 103, 25th June, 1897, being date of application in France.)

SPECIFICATIONS PUBLISHED.

Copies of the following specifications may be obtained by remitting 1/- for each specification to W. P. Thompson & Co., Patent Agents, 322, High Holborn, London, W.C.

28127 of 1896. Griffiths. Enlarging and reducing cameras.

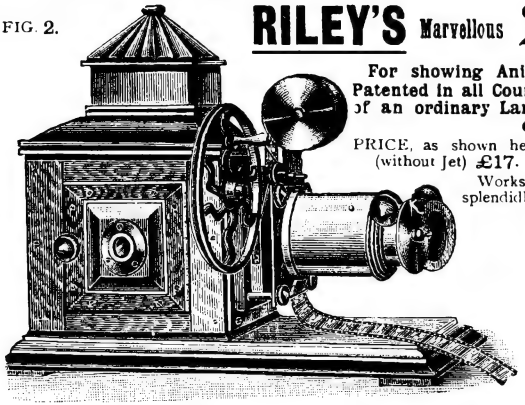
22627 of 1896. Heinze. Apparatus for photographing pictures of objects in motion and for exhibiting such pictures.

29168 of 1896. Richard-Lagerie. Apparatus for producing acetylene gas.

FIG. 2.

RILEY'S Marvellous *Kineoptoscope*

For showing Animated Photographs on the Screen. Patented in all Countries. Can be fixed into the Stage of an ordinary Lantern—an Advantage possessed by no other Apparatus.



PRICE, as shown here (without Jet) £17. Works splendidly.

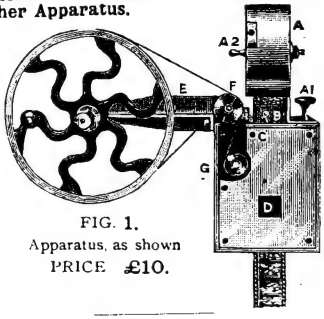
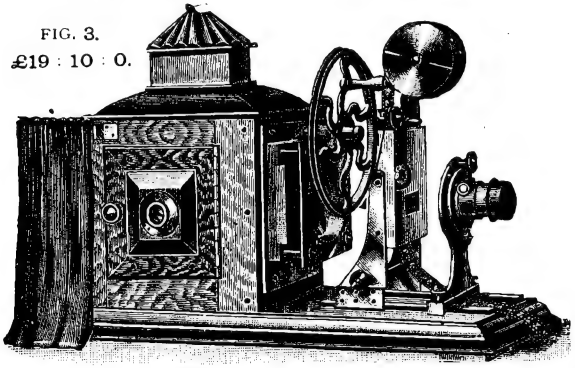


FIG. 1.
Apparatus, as shown
PRICE £10.

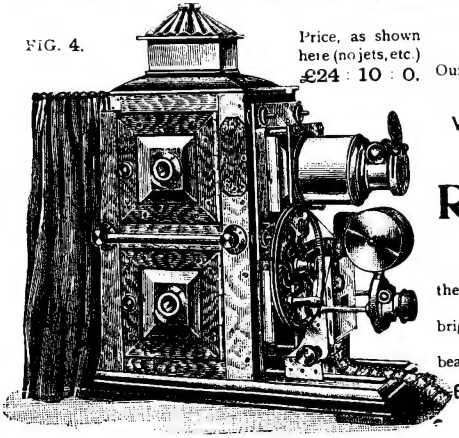
FIG. 3.
£19 : 10 : 0.



Apparatus only .. £10 : 0 : 0
Complete, with Russian Iron Lantern, Alum Tank and Lens, in case .. .. £15 : 10 : 0.
Complete, with Mahogany Lantern, fitting into stage, as shown (Fig. 1) .. .. £17 : 0 : 0.
Do. as shown (Fig. 3) from £19 : 10 : 0 to £24.
Do. Bi-unial Lantern (Fig. 4) £24 : 10 : 0 to £32.

KINEOPTOSCOPE CAMERA
for taking Cinematograph Negatives,
20 Guineas.
LIBERAL DISCOUNTS TO THE TRADE.

FIG. 4.



Price, as shown here (no jets, etc.) £24 : 10 : 0.

FILMS.

Our own make supplied, Wholesale and Retail. Good subjects. Steady motion.
ALL OTHER MAKERS' FILMS SUPPLIED.
Write for Kineoptoscope Pamphlet, Free on application.

RILEY BROTHERS,

55-57, Godwin St., BRADFORD, Eng.,

Invite all interested in Projecting Apparatus to write them for particulars of this wonderful machine.

A challenge to all other machines for being steady, bright, devoid of flicker, strong, portable, and simple.

Professor Steen writes—"Success unprecedented; beats all other machines. Never had one breakdown."

6 Best Quality Films, assorted, from £18 upwards.
ALL BEST FILMS SUPPLIED.

May be seen at work in LONDON, and purchased from— **O. SICHEL & CO., 20, Berners Street, Oxford Street, LONDON.**

WATSON'S

Magic Lanterns and Lantern Slides.

JOHN WATSON,

Lantern and Slide Manufacturer,

34, GRAINGER STREET, NEWCASTLE-UPON-TYNE.

EVERYTHING OF THE BEST QUALITY AT LOWEST PRICES.

NEW TRAVEL SETS. *NEW TEMPERANCE SETS.*

NEW ILLUSTRATED SONGS AND HYMNS. *NEW COMIC SLIDES.*

JUBILEE SLIDES. *SLIDES ON THE LIFE OF THE QUEEN.*

One of the Best and Largest Stocks in the Provinces.

New Films for the CINEMATOGRAPH, including the Jubilee Procession, &c., &c.

A NEW ILLUMINANT—ACETYLENE GAS.

We keep a full stock of Generators, Special Jets, and Calcium Carbide, for the production of this wonderful light, and will be glad to give any information. There is no doubt that there is a tremendous future before it.

The same low prices, personal attention, and high quality of Slides and Lanterns, which have built up for MR. WATSON one of the largest Lantern businesses in the country, will be maintained; and customers can rely upon prompt attention to all orders.

ARTISTIC AND BEAUTIFUL

Lantern Slides

ARE PUBLISHED BY

GRAYSTONE BIRD,

PHOTOGRAPHER, BATH.

New Series for 1897-8.

STUDIES OF CHILDREN IN FANCY COSTUME.

LISTS FREE. *TRADE SUPPLIED.*

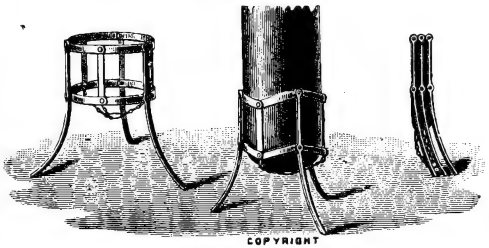
TESTIMONIALS.

"The magnificent set of slides (Children in Fancy Costume) to hand to-day. I have seen a few slides in my time, as I have belonged to several photo clubs and societies, and your work is certainly A1 in every respect." A. J. RICHARDSON,
November 5th, 1897. Dore, Sheffield.

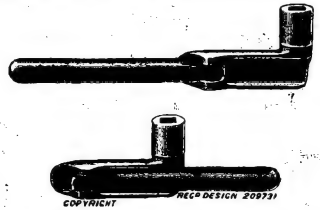
"A difficult task to select a few slides from a collection so uniformly excellent." F. MASON GOOD,
November 14th, 1897. Winchfield, Hants.

"It was a great pleasure to look through so artistic and varied a selection of slides of which the technique also is so good." A. E. CLEMENTSON,
November 17th, 1897. Hatfield, Herts.

FOLDING CYLINDER STAND
(BRIER'S PATENT)



For Cylinders—4 in. diameter, 5/-; 5½ in., 6/-; 7 in., 7/6.



Folding Lever Key (Murray's Patent), 1/9.

THE SCOTCH & IRISH OXYGEN CO., LTD.,
ROSEHILL WORKS, POLMADIE, GLASGOW.

27212 of 1896. Wetter (Meyer). Generating acetylene gas.

29768 of 1896. Dargue. Acetylene gas.

24749 of 1896. Smith. Tray for carrying the illuminant in optical lanterns provided with mechanical adjustments to bring the light to the optical centre.

3013 of 1897. Thompson (Macé and Gerard). Apparatus for the production of acetylene gas.

5800 of 1897. Ives. Projection on to a screen of photographs in colours, and apparatus therefor.

19411 of 1897. Bell and Niagara Falls Acetylene Gas Machine Company, Limited. Acetylene gas.

512 of 1897. Lebrun and Cornaille. Acetylene gas generation.

6536 of 1897. Bernstein. Kinematographs and like apparatus.

14090 of 1897. Jimens. Acetylene.

20936 of 1897. Kranke. Mechanism for hand camera for producing pictures in series.

——:o:——

Editorial Table.

NEWTON'S TRADE CATALOGUE.—In a former number of this journal we mentioned that Messrs. Newton & Co., of Fleet Street, E.C., were about to place their collection of educational slides at the service of the trade. This has now been done, and a most complete catalogue has been drawn out, a copy of which is before us. It consists of 140 pages, and one has merely to think of some educational subject when particulars are sure to be found in this catalogue.

BARNARD & SONS' CATALOGUE. — This well-known firm of Berners Street, W., has just issued an excellent trade catalogue, in which everything pertaining to artists' colourmen is set forth in great detail. The catalogue is beautifully printed on art paper, and cloth bound.

——: o :——

Correspondence.

THE PRICE OF COMPRESSED COAL GAS.

To the Editor.

DEAR SIR,—In my little contribution, for which you courteously granted space in this season's very interesting MAGIC LANTERN ANNUAL, I really omitted one very lengthy query, viz., "Why is coal gas charged at 1½d. to 3d. per foot—in customer's own cylinders too—by the various compressing companies?"

The above works out at £8 6s. 8d. per 1,000, at even the minimum charge of 2d. per foot, and 20 per cent. must be added if the gas be supplied in the companies' own cylinders. One ton of best coal, by the way, yields just 20,000 feet of gas, a fact not to be lost sight of.

I feel confident that, were the price materially reduced, the demand would increase very rapidly, and more than compensate the compressors for such reduction, in that a large proportion of limelight users—both private and public—who at present are content with the "blow-through" jet, would adopt one form or another of the infinitely superior "mixed" type.

Lantern entertainments and such like are, by some, alleged to be on the wane; if this be so, then the first thing to do is to place before the public brilliantly lighted artistic pictures in place of the dim projections or highly one-coloured apologies, seen but too frequently on the screen.

Such a change may be brought about as I have indicated, and would doubtless be speedily appreciated and recognised by all the parties alluded to.

I am, Sir,

Your obedient servant,

ALFRED MEAGER.

Warwick Lodge,
Anerley, S.E.
October 22nd, 1897.

ETHER SATURATORS—AN EXPLANATION WANTED!

To the Editor.

SIR,—Your correspondent, Mr. Downes-Shaw, would have done better, one would think, to consult the makers of his apparatus before rushing into print; for the fault may not be in the saturator at all, and such alarming paragraphs may quite unnecessarily disturb users of saturators. Mr. Downes-Shaw shows, we think, an imperfect acquaintance with the principles of his apparatus, for if he closes a valve in the front, how can he expect anything else but that liquid ether will be forced back into his rubber tubing?

If he tries the experiment at home of sealing the nipple, and then passing oxygen through his apparatus, he will naturally find that the ether is driven back with some force. The natural means of stopping the flame in a saturator of the construction he names would be to turn off the gas at the cylinder. That is a simple method that must act.

It is difficult to understand how the flames could possibly increase in size, as he diminished the aperture through which the gas passed, and if the valve quite closed the tube, it follows that the gas could no longer reach the nipple. A saturator never gets so hot as to produce the results your correspondent fears. What has probably happened is that the saturator needed to be repacked, that the packing has lost its nature and holds the liquid unequally and in too liquid a state. This is easily remedied, and it involves no danger to use it as it is, though it involves some inconvenience. The Paris disaster was another matter altogether, as it was a question there of charging the apparatus near a naked light.

What a pity it is that makers are not approached when operators have difficulties. They would always offer, we think, courteous explanation. If the saturator is a "Lawson," as the description would seem to imply, we may say that up to the time of writing, no explanation has been sought from us.

Yours truly,

Bradford. RILEY BROS.

LIFE OF A CINEMATOGRAPHIC FILM.

To the Editor.

SIR,—Referring to a note in last journal on the life of a film in the cinematograph, the life is very much lengthened if the film is made of celluloid on both sides, *i.e.*, the picture being protected between. I now make my own films in that way. The coating of celluloid on the delicate emulsion side protects the pictures from scratches and other injury. In some projectors the film receives a smart blow at each change of picture, which is very destructive when it comes on the emulsion side; the effect soon becoming visible on a screen as a snow-storm. Moreover, the coating strengthens the film itself by giving more body to it, and it effectually prevents the pictures from any tendency to peel off. It seems to me to be quite as unreasonable to run a film through a projecting machine in the present unprotected way, as it would be to use lantern slides without cover glasses.

The dealers say the public are quite ready to buy films as they are; there is no demand for protected ones, so why should they be offered, etc., especially as the coating would add to the cost, and so on.

I find that the coating can be done, and done at a cost of not more than a few shillings for a 75 feet film. The life of a cinematograph film with a celluloid cover glass is—well, I can't say, as I have not yet seen a worn-out one. But I ought to add that I have only quite recently attained the result, so it is early to say exactly what amount of difference there will be.

Believe me, yours very truly,
G. ALBERT SMITH.

St. Ann's Well and Garden,
Brighton.
November 18th, 1897.

——:o:——

Notes and Queries.

A B.C.—The roller curtain in the lantern to which you allude consists of a strip of brass, which slides in front of the carrier. By this means, in a single lantern the curtain will unroll from the top of the picture downwards. A better way would be to reverse this altogether, and make it roll up from the bottom of the picture. This can easily be done by means of two rollers, the top one being a spring one. A thin strip of metal can be attached to the edge of a black flexible material, from the ends of which a cord can be attached to the upper roller, so that it may be rolled thereon. An elastic band connecting the two rollers at the side will serve to keep the necessary tension. You can get one of Davenport's curtain slide carriers for 7s. 6d. By means of this carrier the desired effect can be obtained.

William Daniel.—The acetylene generator made by Messrs. Thorn & Hoddle should suit your purpose. Their new form for the lantern is provided with a safety outlet, which can be connected to the outer air by means of rubber tubing. Means are also provided for dispelling the air in the holder, so that from the first pure gas is obtained.

H. S.—*Re* the Keevil lantern, you might write to Messrs. York & Son. The Young's gasometer, etc., has for some years past been supplied by Mr. W. I. Chadwick, of 2, St. Mary's Street, Manchester.

J. M. Kemp.—It is a long time since we heard of the firm mentioned, and do not think it is now in existence. Write to Mr. F. J. Borland for particulars of his automatic lamp. We note that you are conversant with that supplied by Messrs. Newton & Co.

Showman.—Sheets containing lithographs for transferring are supplied by Theobald & Co., or Mr. R. Clark, Royston, Herts.

Geo. Bevan.—We quite agree with you about the messiness of oil lamps, even when great care is taken to keep them as clean as possible. If your lantern is to remain at one hall, as we presume is the case in your school, you will find the incandescent gas light fairly good, only keep to small discs.

G. H. B.—If you write to Mr. Hepworth you will ascertain where to get the special carbons invented by his father. His address is Mr. Cecil Hepworth, Cecil Court, Charing Cross Road, London, W.

W. H. Spite.—Your letter was forwarded in due course.

J. de Hoon.—We think the sets mentioned are published by Messrs. Riley Brothers, of Bradford, Yorks.

K. (New Zealand).—We are sorry we are unable to supply any further information about Eureka gas. We should think the trouble about the dissolving with the saturators was a defective dissolving tap; there is a lot of such rubbish about, try it very slowly, and perhaps you may remedy it by filling the notch in the plug. Of course, you must take it apart.

Jas. Stewart.—The pressure question with regard to ether saturators is a very elastic one, for each time the apparatus is used, theoretically the pressure has to be different to give the same results, for some water is left behind after the ether has evaporated, and besides, the stuffing gradually gets less porous. Your informant was wrong about bags not giving sufficient pressure. The other day we tried a couple of saturators of the same make, and found that while one could be blown through with the breath, the other required so much pressure that the automatic regulator had to be removed from the gas cylinder. This will show you the impossibility of drawing up a table of pressures and candle-power such as you suggest, for there are too many conditions to be taken into account—of course, with clear way jets the case is different. You speak of spirit jets; the best we have ever tried—and we have used many—is one invented by Mr. A. A. Wood, of 74, Cheapside, London, with it the flame is not burned from the wick direct; you will find illustrated particulars of this in this journal for May, 1893. The Acetylene Gas Company to which you allude has been *non est* for some time. With regard to the lists of which you speak, they do not come within our province as editor, they having been arranged by the business department of this journal, to which your letter has been submitted.

D. R. Eunson.—For your future guidance kindly note that business communications should be addressed to the secretary, whilst those on editorial matter to the editor (J. Hay Taylor). We shall be pleased to learn how the acetylene question is settled in your part of the world.

The index for the year now ending will be issued with the January Number, and meantime we wish our readers

. . A . .

Merry Xmas.

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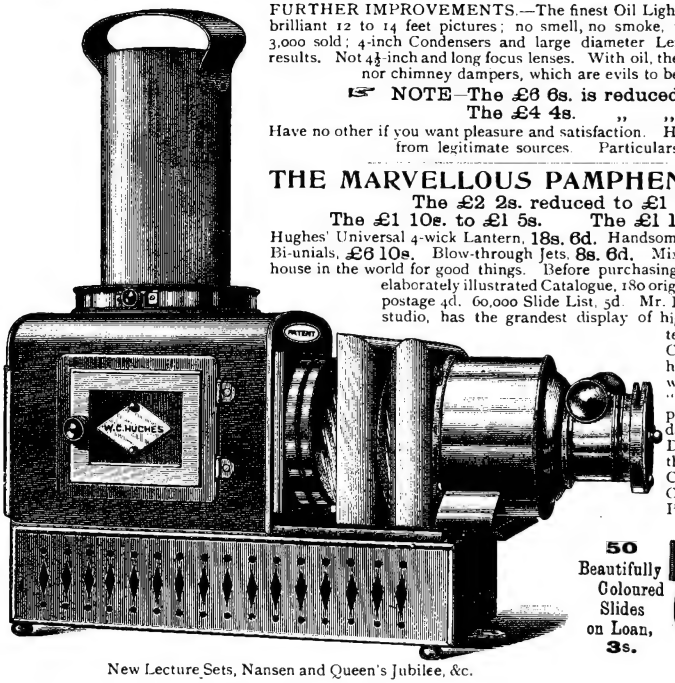

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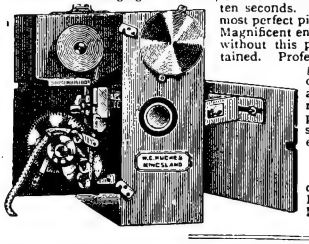

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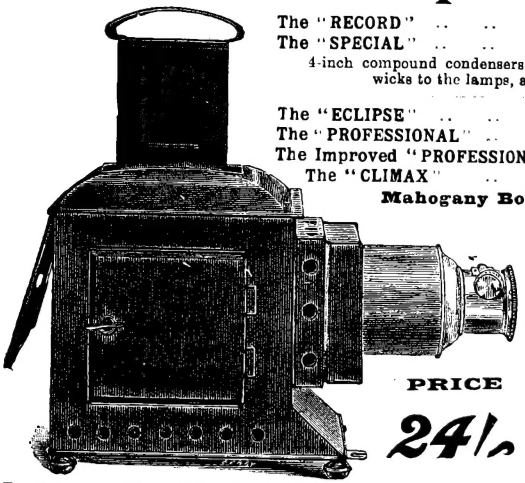

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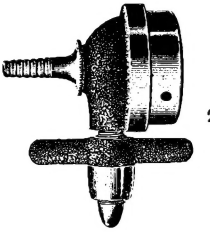

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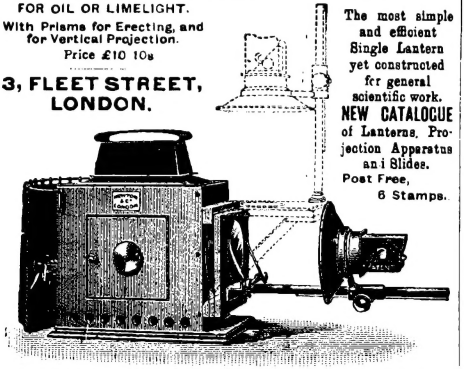

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